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Symposium on Internal Medicine, page 477

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Vol. 157, No. 8

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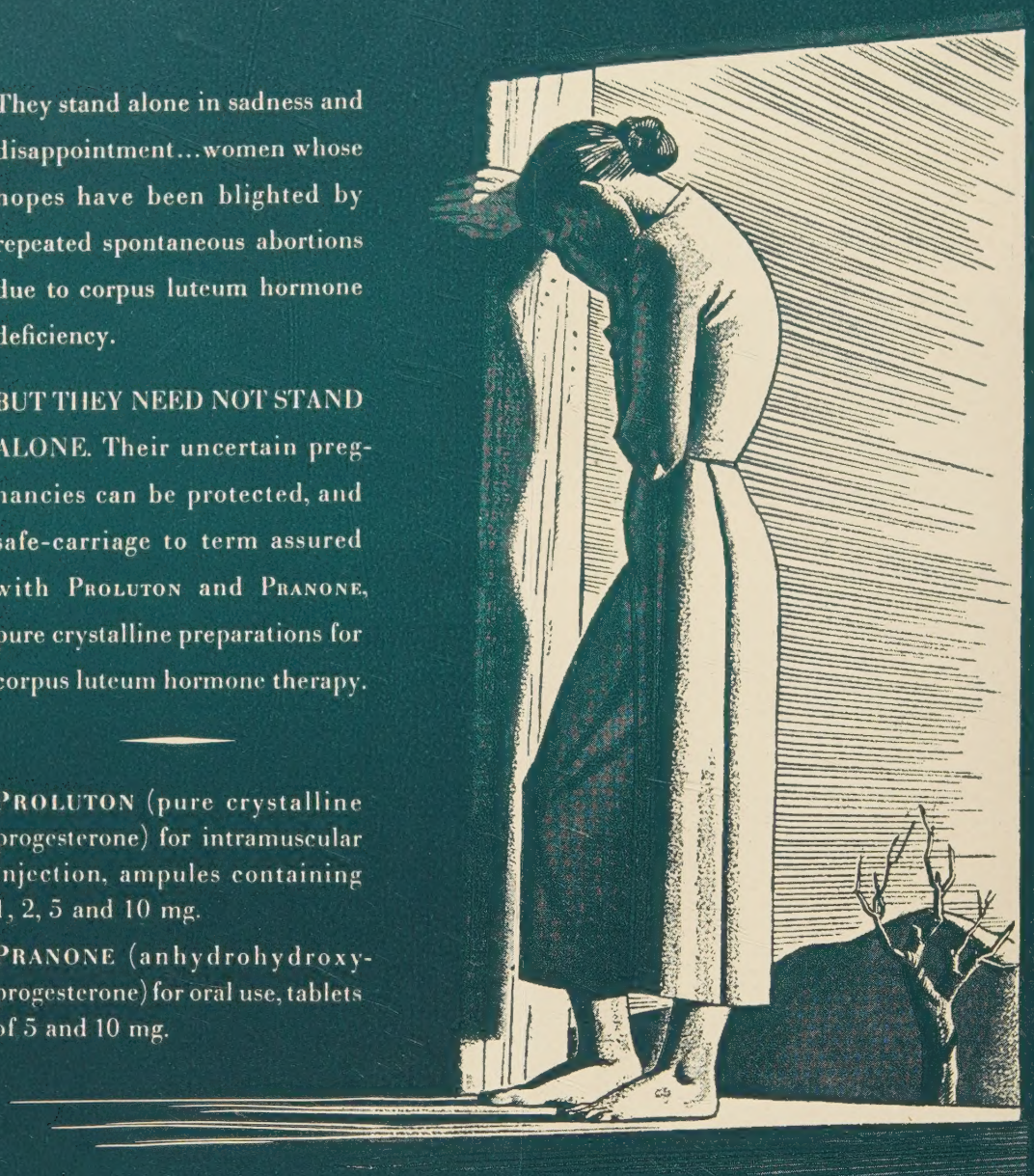

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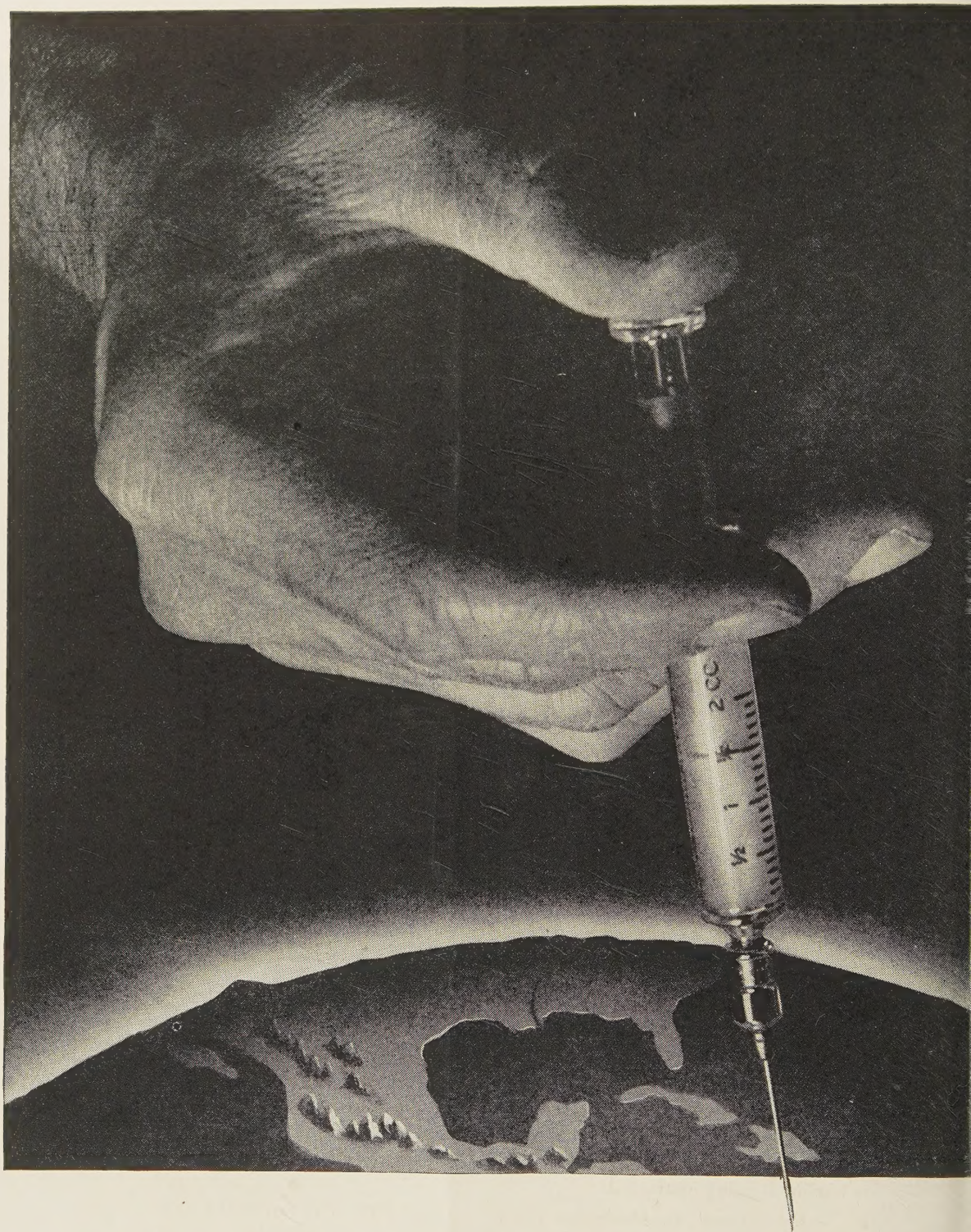

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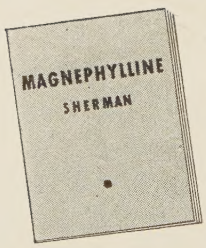

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Welfare Program of the Metropolitan Life

In 1909 the Metropolitan Life Insurance Company began its welfare program. It had for its goal the better health of all the people of the United States and Canada by improving the health of the wage-earning populations, as represented by the company's Industrial policyholders. How well this program has succeeded is told by Dr. Donald B. Armstrong, third vice-president of the Metropolitan, and in charge of its Welfare Services.

Describing the health campaign's four points as education, research and demonstration, nursing care, and cooperation with other agencies interested in improving the public health, Dr. Armstrong stresses the fact that in 1911, two years after the company started its welfare program, the expectation of life at birth of the Industrial policyholders was 46.6 years. It has increased until in 1943 it was sixty-four years, a gain of approximately seventeen years. During the same period, however, the expectation of life at birth of the general population of the United States, which in 1911 was nearly seven years greater than that of the insured group, has gained only eleven years, and is now about on a level with that of the insured group.

Referring to some of the outstanding features of the thirty-five-year health campaign, Dr. Armstrong tells how more than 1,275,000,000 pamphlets on health conservation, and disease and accident prevention, have been distributed in this period; how company health and safety films have been viewed by more than 129,000,000 persons, and over 93,975,000 visits made by the company's visiting nurses to the homes of policyholders.

These visiting nurses operate under the company's visiting nurse service, which was started in 1909, under which visiting nurse care is available to millions of Metropolitan Industrial policyholders and group certificate holders in the United States and Canada. The distribution of the health pamphlets is made in conjunction with the nursing service, and in cooperation with public health and educational agencies.

Describing some of the results of research and demonstration, Dr. Armstrong explains that a seven year demonstration has proved that an American community can "radically reduce its tuberculosis death rate by using what is known about that disease—its prevention, its detention, and its treatment". Another experiment has shown that infant mortality can be reduced in a community by "educating mothers in modern methods of maternity and child care". Other studies that have done much to improve not only the health of the insured group but also that of the general population were those pertaining to influenza-pneumonia and silicosis. Dr. Armstrong adds that the Metropolitan throughout the past thirty-five years, has cooperated in practically every nation-wide health movement and in many local health campaigns as well.

During the thirty-five year period, the tuberculosis death rate among the policyholders dropped eighty-two percent; typhoid fever nearly one hundred percent; diarrhea and enteritis, nearly eighty-four percent; measles, scarlet fever, whooping cough and diphtheria are now nearly eliminated as major causes of death among children; and heavy declines have occurred in the death rates for appendicitis, and notably for pneumonia, especially since 1936, after the development of pneumonia serum and the discovery of the sulfa drugs.

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Open Forum

Hospitals for the Amazon

HAROLD B. GOTAAS
Washington, D. C.
Health and Sanitation Division, Office of Inter-American Affairs

A few months ago President Prado of Peru motored from Lima, the capital, over a new highway across the Andes mountains to participate in ceremonies marking the completion of an extension of the highway to Pucallpa, a town on the Ucayali River. This occasion was significant for several reasons. It marked the linking of the highway and the Amazon River navigation system, of which the Ucayali is a part, to make a transcontinental route across South America from the Pacific to the Atlantic. It was another step forward in Peru's program for the economic development of her trans-Andean territory, potentially important as an added hemisphere source of rubber and other tropical-grown materials. And, finally, it marked the dedication of Pucallpa's new hospital.

These factors—transportation, economic development and health work—are closely related in the Amazon region. The Amazon basin, sprawling across the equatorial zone of South America, from the foothills of the Amazon to the Atlantic, roughly covers an area two-thirds the size of the United States. Except in spots along the rivers, it is little developed. Population is sparse and transportation poor, except by the rivers and the new airlines which are helping to open this immense territory to colonization and to use of the forest and soil resources. Malaria and other ills common to the tropics have retarded the economic progress of the valley.

Now the pace of Amazon developmeat has quickened. Before the war, Brazil and Peru saw the economic potentialities of the Amazon and were working on long-range measures to improve transportation and stimulate colonization. But war—and especially the loss to the United Nations of Far Eastern sources of rubber, quinine, fibers, drugs, balsam wood and certain hardwoods after Pearl Harbor—gave the Amazon its strongest impulse toward development since the collapse of the rubber boom after the first world war. When the rubber crisis turned the spotlight on the Amazon following Pearl Harbor, there was a lot of overoptimism as to the possibilities of quickly increasing rubber production from the Amazon forests. That optimism has yielded to a more sober realization of the obstacles which must be conquered before the rubber, the vegetable oils, the hardwoods and other forest products of the Amazon can be brought into the world's trade streams on a substantially larger scale. Of these obstacles, the most formidable are transportation, food supply and disease.

The big transport planes which fly across jungles and mountains to the rubber producing and shipping centers symbolize the Amazon's new era in transportation. So does Peru's spectacular highway across the Andes. Airplanes bring in food as well as other supplies. Over the longer range, the colonization movement and intensified efforts to encourage local food production should help cover Amazon food needs.

And the Amazon's new era in health and sanitatio backing up economic development projects, is symbo ized by the Pucallpa hospital. This hospital is one several hospitals, dispensaries and health centers co pleted or under construction in Peru's trans-Andea region. The work there is being done as part of inte American health and sanitation measures recommende by the Rio de Janeiro Conference of American Foreig Ministers.

These cooperative measures have evolved into continental program to improve health and sanitati conditions in areas important to the development hemisphere resources and defenses. Nineteen of th American republics, including the United States, a participating in this inter-American effort to contr and reduce the human toll taken by malaria, tube culosis, typhus, yaws and other diseases. The Rio co ference, it will be recalled, laid down the cooperati pattern for large-scale mobilization of hemisphe resources behind the war effort. And the health mea ures were recommended as supporting measures fro the main development work.

The Rio conference was held in January, 1942, so after Pearl Harbor, while the Japanese, on their sout ward course, were overrunning our former chief sourc of supplies of rubber, Manila hemp, certain vegeta oils, hardwoods and other materials from the tropi Thus there was special point in emphasizing the ne for health measures to support a hemispheric develo ment program. Most of Latin America is in tropical semi-tropical climate. And health and sanitation mea ures, as industrial experience amply has demonstrate are high on the list of preliminary work which must done before the tropics yield to the productive ventur of modern industry.

Now, as the completion of the Pucallpa Hospital i dicates, the Amazon's new era of health and sanitati is well on its way. The advance of this work is mark by the rise of neat tile and brick hospitals in larg communities; the construction of simple wooden buil ings to serve as dispensaries and health centers at sma er towns; the building and equipping of launches make floating dispensaries along the rivers. This co struction is in addition to extensive malaria contr work for the elimination of mosquito-breeding place

Like the Amazon country, the health work is a b story. The Amazon Basin covers territory of six cou tries—Brazil, Bolivia, Peru, Ecuador, Colombia a Venezuela. All these countries have joined in the inte American health and sanitation program. The work each is adapted to local problems and needs.

I shall limit this account to the story of hospital co struction in the Amazon, based on close-up observatio as a sanitary engineer of the pioneering work bei done in the Amazon. In this primitive region, engine trying to meet construction schedules, have to conte with difficulties other than tropical heat, humidity, lo land floods, insects. They also have to overcome sho ages of supplies, especially supplies normally import from the United States, such as steel. War time sho ages, two thousand miles or more up the Amazon, te engineering skill more than similar shortages in t United States. Moreover, the engineer off these beat paths of hospital construction has to make out as be he can without the pools of technical skill, the contra tors, the equipment he is accustomed to use in lar

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urban centers and the highly developed areas of t Americas.

Wood is an illustration of what the engineer in t Amazon faces. The Amazon Valley has some of t greatest tropical forests in the world. It is reputed have at least two thousand different species of woo Yet the engineer, looking for materials to build hosp tals and dispensaries, is somewhat in the situation the Ancient Mariner who had water, water everywhe but not a drop to drink. It isn't economic to use wo for hospital construction. The substantial Amaz woods, on the whole, are so hard that it is difficult work them, to drive nails into them or make bolt hol The specific gravity of many hard woods is grea than that of water. And soft woods are not sufficien resistant to parasites.

So the engineer turns to clay and brick for buildi materials. This in turn raises supply problems. Amaz towns mostly are far apart. Water shipment of bu products is slow. On the upper Amazon tributaries, f thermore, navigation is impossible or handicapped d ing low water. Consequently, it becomes necessary some places to establish brick kilns. This was done, instance, at Guayaramerin, in Bolivia's Beni area source of high-grade rubber.

Guayaramerin is a small town at the junction of Beni and Madeira rivers, important as a rubber shi ping point with the increase of collection of latex fr the Beni area for export to the United States. The co munity provided a site for a hospital. The populat of the town, as well as the surrounding country, creases with rubber development. The region has a h malaria rate.

Ordinarily, supplies move into the Beni area by w of the Amazon and its tributary streams. Air transp improves communications to the nearer Pacific p outlets. However, airplane service is mainly for pass gers and lightweight supplies. Bulk products, such building materials, still must move by the rivers or tortuous roads and paths from the highlands into rubber-producing lowlands. Twenty tons of build supplies, including a tractor and a sawmill, were tra ported by highway from Cochabamba to Todos San in the lowlands, then by cargo launch to Guayarame

Many health centers and dispensaries have b projected for the Amazon country in Bolivia, Pe Ecuador and Brazil. Work on some has been slow starting for one reason: engineers have learned tha is best to wait until materials have been accumula to attain construction efficiency. If the engineer gets h way through a project and then discovers he is short material, he may have to wait months for his orders reach distant supply centers and for boats to make long haul up the Amazon.

One of the first projects in the upper Amazon ri region is at Tingo Maria, a rising town on the east slopes of the Andes. It is on Peru's new trans-And highway. Tingo Maria is an agricultural experim center. A hospital was built there in 1939. But it considered inadequate. So it has been reconstruc and improved. During reconstruction, it was found t some of the floors of the old hospital had been ea away by termites.

While termites and insects discourage the engini from using wood, frequently it is necessary to rely up local lumber, especially for small structures. Many pensaries and auxiliary buildings are constructed

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lumber, with tile or thatched roofs. Use of shingles for roofing is impractical in the Amazon. The hot sun and the rain warp shingles, so the engineer uses tile or thatched roofs, usually of palms. Thatched roofs are easily replaced. In brick and tile buildings, mahogany, cedar and other local woods serve handily for flooring. In some places the millwork is done in the community; in others the finished lumber is shipped in from the larger towns down river. In Guayaramerin, engineers bought two yokes of oxen, located trees, had them cured and dried and then sawed for the construction of a twenty-bed hospital. When I was in Guayaramerin late in 1943, some fifty thousand bricks and fifteen thousand roof tiles had been made locally for the hospital construction. Workers had built thatched roof sheds to dry the bricks. With heavy rain in the Beni, unburned brick can't be left outside.

And wooden buildings need concrete piers or foundations for protection against insects and floods in the rainy season. Rainy season in the Amazon is a relative term. There is a saying that the only difference between the dry and the rainy season is that in the dry season it doesn't rain so much. Ordinarily the rainy season runs from December to May. Ventilation is another important point engineers must consider in the Amazon work. Buildings must be oriented with regard to wind and sun. In many Amazon areas the wind ninety percent of the time is from one direction. This is due to trade winds from the Atlantic side.

Once the roof is on, work can continue most of the year around, rain or no rain. However, in drainage, diking and other outdoor work, activity must be concentrated largely in the dry season. Labor is relatively scarce in the Amazon. This is emphasized by the need for importing thousands of additional workers to increase rubber collection. High transportation costs are reflected in construction expenses. Compared with delivery schedules in the United States, transport by the river boats is slow. The engineer has this in mind when he insists that matrials be on hand before the start of a construction job.

Screening is a supply problem. Some metal screening has been obtained from Brazil. But Brazil has a building boom. Even cement is not easy to get, although Brazilian capacity to produce cement has increased greatly. Some plastic screens have been used as substitutes for metals. Confronted with wartime shortages the engineer learns to improvise and to use ingenuity. Construction work generally in the Amazon, in my opinion, has gone along remarkably well, considering the difficulties of transportation, supplies, scarcity of labor. Some indispensable equipment can be obtained only from the United States. This is facilitated by the priority Amazon development rates in light of United Nations need for rubber.

Health work in the Amazon is largely a problem of prevention, rather than cure. The reason is that malaria and other communicable diseases levy the heaviest toll upon human energy and life and prevention pays the largest dividends. Hence much of the construction is designed to prevent disease, rather than cure it. Still hospitals for cure of the afflicted are essential to the Amazon, particularly in the larger communities.

(To be continued)

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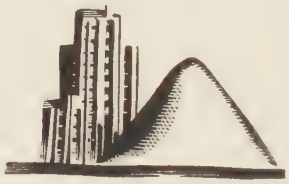

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"The Errors of Psychiatry"

The Committee on Public Education of the American Psychiatric Association has issued an official statement regarding an article entitled, "The Errors of Psychiatry", by Henry C. Link, Ph.D., which appeared in the July issue of *American Mercury*. Dr. C. C. Burlingame, chairman of the committee, while admitting that no serious harm was done through the writing of this particular misinformation, said that his committee hoped that "an end will come to articles and statements on psychiatric matters based upon partial knowledge, incorrect knowledge, or, as is sometimes the case, on no knowledge at all".

Assuming that the Link article was well-intentioned and sincerely written, Dr. Burlingame termed as "ridiculous" its charges that psychiatry is creating, not curing, psychiatric disabilities; that it is giving medical standing "to a process of mental and moral softening the like of which the world has never seen"; and that psychiatrists are "responsible for the 1,340,000 rejections at the draft boards".

"This statement is an example of a careless use of figures", Dr. Burlingame said. "Flattered as the psychiatrist might be by such a record, we must admit that 536,000 of that number (apparently unbeknownst to Dr. Link) were rejected for mental deficiency *by the psychologists*, and the remaining 802,000 include those with histories of infantile paralysis and other conditions not ordinarily cased as psychiatric". However, he pointed out, the real point at issue is not the careless use of figures, but "the tragic superficiality of remarks bandied about regarding psychiatric matters by people who know only a small angle of a very broad and com plex problem".

Referring to Dr. Link's charges of military psychiatri malpractice, Dr. Burlingame suggested that it was little "on the absurd side" for anyone to say that th Army, the Navy, or the psychiatric profession in gen eral were engaged in creating psychiatric cases. Th real facts, he said, are issued regularly by the War De partment, Bureau of Public Relations, Press Branch and are available "to anyone who really wants facts".

Denying Dr. Link's suggestion that any man ough to be taken into the Army "because it would do hi good", Dr. Burlingame agreed that it might do at lea some of them good, but doubted the good it would d the armed forces. In the interdependency of moder warfare, no soldier wants to have an unstable or doub ful individual to the right, to the left, in front, or back of him! He surmised that military men fro Nimitz and Eisenhower down, would remember th days when the Military Service was thought of as kind of reform school where the bad boys, the ne'er-d wells, and the town's screwballs and drunks were sen "but the author of this present article is twenty-fi years out of date because we learned in the last w (where I served with the A.E.F. in France) that whi that might be jolly for the civilians, it made things ve hard for those trying to build an Army to fight. D Karl Bowman, president of the American Psychiatr Association, hit the nail on the head when he said th the idea that the Army can make a man out of such misfit is one of the fond delusions of the laity".

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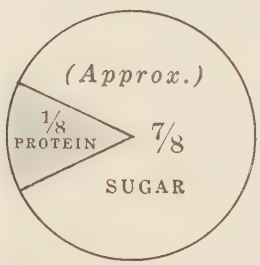

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and misinformation about wartime psychiatry has been for some time a matter of grave concern to the American Psychiatric Association, Dr. Burlingame said that it takes an article "like this one of Dr. Link's to show up the extent of this misinformation even among those of higher education". "While it is common knowledge that a little learning is a dangerous thing, it is quite unfortunate that a well-known psychologist and author of two widely-read books should be so careless in the use of facts regarding the military Medical Corps, government agencies, and the general psychiatric profession. I do not consider that any of these three groups need a defense, but the public, even the most intelligent, needs less froth and more actual facts".

Dr. Burlingame emphasized particularly the fact that the rank and file of psychologists are working harmoniously and constructively on the whole problem of military warfare, and that the glory of psychiatric success being achieved is willingly and gratefully shared by psychiatry with its sister branch of medicine, psychology.

Disease Control

The first Frederick Price Lecture was delivered by Lord Horder before the Royal College of Physicians of Edinburgh, in May 1942, and was published in the *British Medical Journal*. Dr. Price was a graduate of the Medical School of Edinburgh University and founded the lectures in appreciation of his alma mater but with the view that it would in years to come be the means of advancing the principles and practice of medicine.

Lord Horder's address was a masterly survey of the control of disease, from its early beginning down to modern times. He pointed out that so long as slave labor was abundant so long the human unit remained of little consequence and medicine remained the prerogative of the rich. But the "health of the few cannot be assured in a community which allows disease amongst the many," and so the few soon found that if they wished to keep themselves even relatively immune they must organize, in some degree at least, the lives of the many. Such organization formed the beginnings of disease control, or preventive medicine as it is now known.

The control of disease, he said, had made great strides during the past century, especially during the latter half. In prophylaxis the tracking down of the intermediate hosts made use of by the malarial and other parasites and the measures taken to suppress them, have added a brilliant chapter to preventive medicine. The names of Laveran, Manson, Ross, Gorgas, and MacCallum are conspicuous in this field. Immunology, introduced in its single example by Jenner, became a science under Behring and Kitasato, with their preparation and standardization of specific antitoxins for the treatment and prevention of diphtheria and tetanus.

Chemotherapy, an ancient but empirical method of control, receiving from time to time valuable aid from the chemist by the isolation of active therapeutic principles from crude drugs, and by the preparation synthetically of these same principles and of equally useful modifications of them. Chemotherapy took a rational form under Ehrlich.

Lord Horder drew attention to the friendly rivalry which has long existed between chemotherapy and immunology but said that the most recent score, and

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very high one, was with the chemist. After tracing development of chemotherapy and giving the meth all the praise that is justly due to it, he said it was wonder that the pendulum had recently swung far the direction of a preference for using the new ty of remedy to the exclusion of the old. This does illustrate a common weakness inherent in human ture. Sera and blood antiseptics are not mutually clusive, they are supplementary one to the other. E so, the specificity of antitoxins and other immu logical measures in the prophylactic and curat treatment of diphtheria and tetanus remain unch lenged and doubtless the pendulum will be seen swing again when once more the limits of chemoth apy seem for a time to be reached.

Lord Horder appeared to view with favor the be that cancer is a virus disease, saying that the hypot sis that this disease is due to elementary particles virus nature, colonizing the cancer cell and possess inside the characters of a very strict parasite, wo explain most, if not all the facts at present known us. There is convincing evidence that viruses are sponsible for such diseases as the common cold, in enza, measles, encephalitis and poliomyelitis, and the case of two other virus diseases, smallpox a rabies, principles of control have long been establish

Dolorimetry

To the Editor.—

I am much pleased with "Dolorimetry in Med Practice" in the MEDICAL RECORD and feel indebted you for its excellent appearance. Until I shall h the pleasure in expressing my thanks in person, r this convey my heartfelt gratitude to you.

I have just read in Kant's *Transcendental Id* that the word "absolute" is loosely applied and pangs of conscience on account of my "absolute" p value. However, as he states that the word is mo used to express the true intrinsic value of the th I believe, it may be kept. Otherwise, "objective" still better "metric value" of the pain should be in duced in contradistinction to the (subjective) "H value."

Very properly you translated "sciaticopathy" i "sciatic disease." I coined this word on the pattern neuropathy which is lately employed to distingu nerve irritation from true nerve inflammation.

I read a good deal of arguments on sciatica (th is one in the last number of the RECORD, but after I believe that most physicians know what it me It denotes any pathology which makes its appeara predominantly in sciatic irritation.

Whenever possible the diagnosis "sciatica" sho be supplemented with its causative factor. Expos to cold, external pressure on the nerve trunk, pro titis, diabetes, gout, and a few other conditions ca sciatica and these should be diagnosed by the p titioner. Successful treatment in the shortest t might be then secured. If such causative factor ca be detected, or if the sciatica does not resp promptly to the supposedly proper treatment, ther time to consult the neurologist, who might diagn one of the rather rare causes: a prolapsed disc, a t neuritis (due to this or that), a tumor in the sp canal, a neurosis, or, last but not least, a delibe "post-sciatica" simulant.

I have found sciatica intriguing in my practice a

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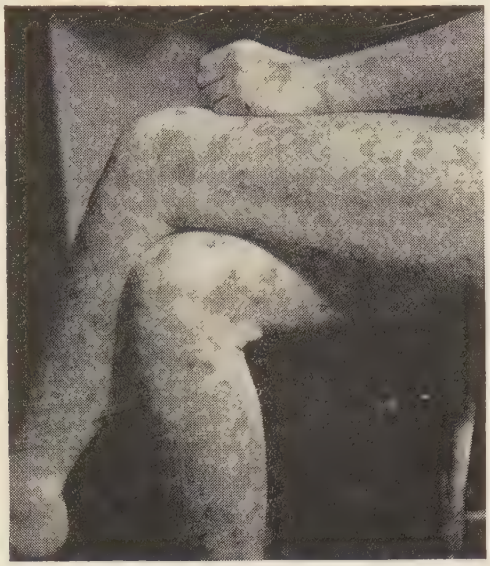

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with the exception of a few cases, a happy hunting ground, especially since I started to use dolorimetry intelligently. This last statement is embarrassing for me as it might sound as an advertisement, but truth will out.

I beg your pardon for this lengthy word-hair-splitting and in spite of it, please, keep me in your good will. Yours respectfully,

L. J. B. Gluzek, M D
Cleveland 15, Ohio.

Edward Huntington Williams

To the Editor:

I know how shocked you will be to learn that Dr. Edward Huntington Williams died quite suddenly of a heart attack on June twenty-third. Dr. Williams had not been well for some little time and about two years ago he discontinued his private office but continued his medical supervision of several sanitariums. He was quite alert, and recently wrote a paper for presentation at a meeting of one of the medical societies here. The last time I saw him he looked very well.

I have known Dr. Williams very well for over twenty-five years. We had a great common interest in endocrinology and the relation of this subject to mental and nervous diseases as well as sex irregularities and, as you know, we collaborated on several medical papers and had occasion to do quite a little work together. Also for years we went target-shooting together and I learned to know him very well. He will indeed be missed.

Clifford A. Wright, M.D.
Los Angeles, Calif.

Our Contributors

Max Einhorn, M.D., New York, N. Y., is one of t leading gastroenterologists of America; his work is a well known in Europe. He has written many importa books on diseases of the stomach and the intestin and has invented a number of instruments which a used in the practice of gastroenterology.

* * *

Clifford L. Bartlett, M.D., Pasadena, Calif., w graduated in medicine from the University of India School of Medicine, Indianapolis, in 1914, and serv as instructor in bacteriology and pathology, Univers of Iowa, 1914-17. He served in the first world war b in this country and overseas. He was formerly direct of laboratories at several hospitals, associate in pathology, Peking Union Medical School (Rockefeller Foundation), and special lecturer in bacteriology and pathology, Medical Department, University of Southe California. At present he is engaged in the practice internal medicine, and is a senior medical attendant the staff of the Huntington Memorial Hospital, P adena, and a Fellow of the American Medical Assoc tion.

* * *

M. Martyn Kafka, M.D., New York, N. Y., w graduated from the University of Maryland School Medicine in 1924, and has done extensive postgradu work. For the past eight years he has been a mem of the faculty of the New York University Medi School, Department of Otorhinolaryngology, and is

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sistant visiting surgeon at the New York Post-Gradua Hospital. He is founder and president of the Americ Association for Motor Vehicle Safety. He contribut frequently to medical literature and has lectured e tensively to the laity. He is a certified flight surgeon the U.S. Army Air Corps, having been in active ser ice from June 1940 to October 1941, when his term service expired.

* * *

Solomon R. Kagan, M.D., Roxbury, Mass., w formerly a member of the staff of the Jewish Memori Hospital, in Roxbury. He is the author of a number books, including *Jewish Contributions to Medicine America*, and has written numerous articles on medica historical, bibliographical and literary subjects, pu lished in the Russian, German, Hebrew, Yiddish, ar English languages.

* * *

J. A. Garcia, M.D., Corpus Christi, Tex., receive his medical degree from the University of Texas, Me cal Branch, Galveston, in 1934. He is a member of t Nueces County Medical Society, the Texas State Me cal Society, and the American Medical Association. present he is on the staff of the Sphon; Fred Robe Memorial, and Medical Professional Hospitals Corpus Christi. His hobbies are reading and travelin

* * *

Samuel L. Immerman, M.D., Philadelphia, P received his degree in medicine from the University Pennsylvania School of Medicine in 1914. At prese he is an assistant, Gastrointestinal Clinic, Gradua Hospital, Philadelphia. His hobby is golf.

* * *

A. Stolinsky, M.D., San Francisco, Calif., w graduated from the University of St. Louis School Medicine in 1926. He did postgraduate work in t Universities of Minnesota and Chicago, and also Vienna during 1932 and 1933. He is a member of t American Medical Editors' and Authors' Associati and has written numerous articles on medical topi His favorite pastime is collecting medical anecdot and translating some from foreign languages.

* * *

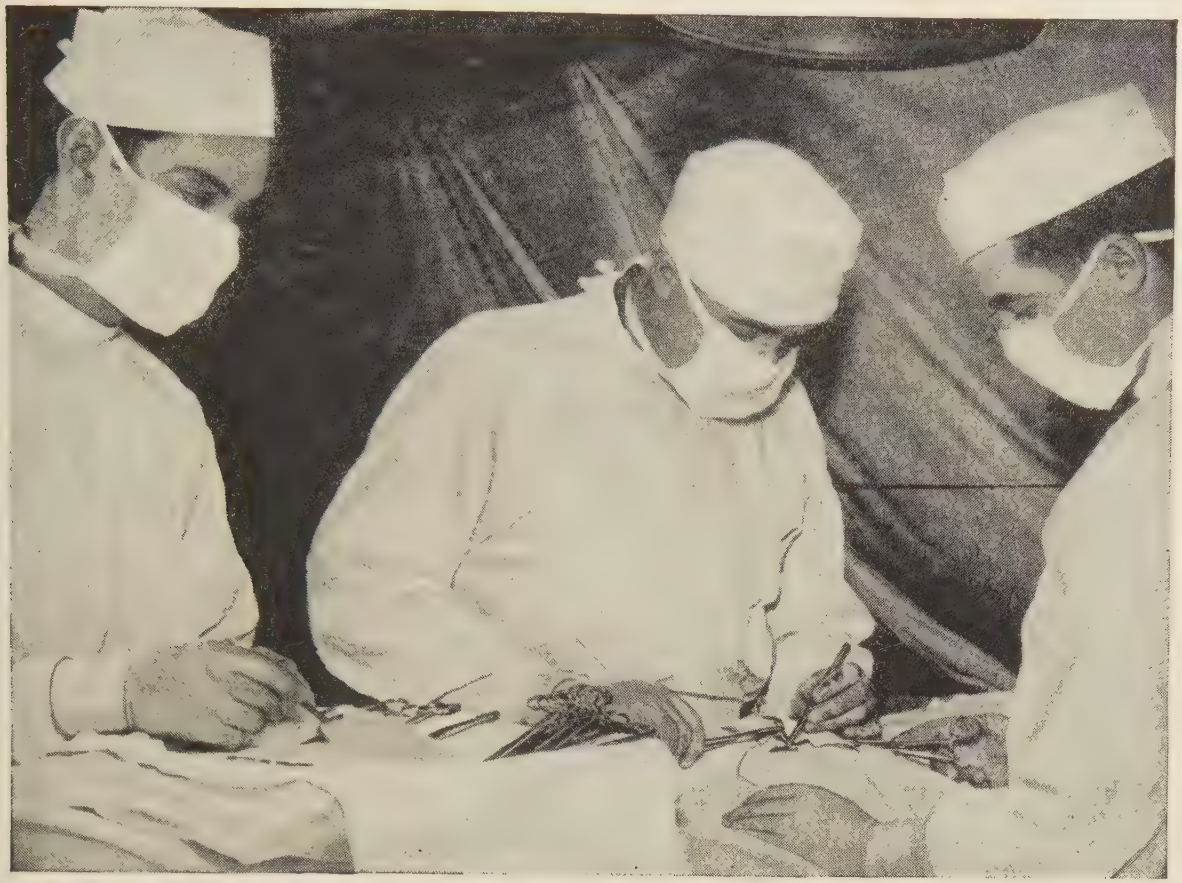
Ferdinand Roder, M.D., Brooklyn, N.Y., w born and educated in Vienna, Austria, and receiv his degree in medicine from the University of Vienn He was connected there with the Allgemeine Kranke haus and the Institute for Psychology. He came to t United States in 1939, obtained his license in 1941, a is now practicing medicine in Brooklyn, N.Y., and du ing the summer months in Sharon Springs, N.Y. H hobbies are philosophy and music.

* * *

Alexander Sterling, M.D., Philadelphia, P was graduated from the Medico-Chirurgical Colle Philadelphia, in 1911. He is a Diplomate of the Am can Board of Internal Medicine, a Fellow of t American Academy of Allergy, and is engaged in a ive practice, specializing in allergy. He is chief of t department of allergy at the Northern Liberties H pital, Philadelphia. His favorite recreation is travelin

* * *

Bea Sterling Hollander, M.D., Philadelphia, P was graduated from the Woman's Medical College Pennsylvania, in 1941, and is on the staff of t Frankford Hospital. She is the daughter of Dr. Al ander Sterling.



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MEDICAL RECORD

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VOL. 157, No. 8 AUGUST 1944 WHOLE No. 2739

DYSPHAGIA DUE TO CARDIOSPASM OR PYLOROSPASM ON ACCOUNT OF ULCER CURED BY DUODENAL ALIMENTATION*

With Report of Three Cases

MAX EINHORN
New York, N. Y.

A few years ago Dr. Thomas Scholz and I could demonstrate by the new delineator that spasms of the cardia and pylorus are frequently found associated in the same person. In some instances they lead to serious disorders requiring special treatment. I mention one patient (Mrs. L. R.), who had been referred to me by Dr. Willy Meyer for the treatment of cardiospasm. A thorough examination showed a definite spasm at the cardia and pylorus. The tube treatment and the stretching of the cardia and the pylorus led to perfect recovery which lasted for ten years or more. Later on, the patient had an upset which led to difficulty in eating. Her esophagus often would contain food from the previous day. The diagnosis of a distinct cardiospasm was established and retrograde stretching of the cardia had to be performed for some time, with good results.

I shall present here the report of three cases of dysphagia in which the simple treatment of the ulcer by duodenal feeding and the accorded rest to the ulcerated area led to a disappearance of the symptoms of dysphagia and a diminution of the ulcer crater. These three cases were observed recently in the Lenox Hill Hospital.

Case Reports

CASE I.—Miss E. K., aged fifty-seven years; second admission, Jan. 7, 1944. Ten years ago the patient complained of epigastric pain, which was related to meals and disappeared after the intake of food. Symptoms continued for about four years at greater intervals. For the last six years the patient was almost entirely well. Four months ago, the same pain reappeared and the patient complained that she could not eat on account of pain while eating. She lost about twelve pounds. The string test showed blood stain from ten to eighteen inches from the lips and several stains towards the end of the string; no bile. The x ray revealed a duodenal ulcer. The swallowing sound was absent. The duodenal tube was introduced on January 11, 1944, and entered the duodenum on January 18, 1944, when duodenal alimentation was carried out. The tube was removed on January 31, 1944, and the patient felt well. Later on the usual way of eating was resumed, and about one month later the swallowing sound was present after seven seconds.

CASE II.—Mrs. D. W., aged fifty-three years; admission on February 24, 1944. The patient had onset of epigastric pain five months ago; this pain was worse after the intake of food. After eating she felt slightly nauseated and vomited occasionally. She had had similar attacks of pain seven years ago, and had been on a diet for the past six years. The condition had been worse for the past two months with loss of appetite and weight, a distinct pain while eating, and even difficulty in swallowing. The complete loss of weight was seven-

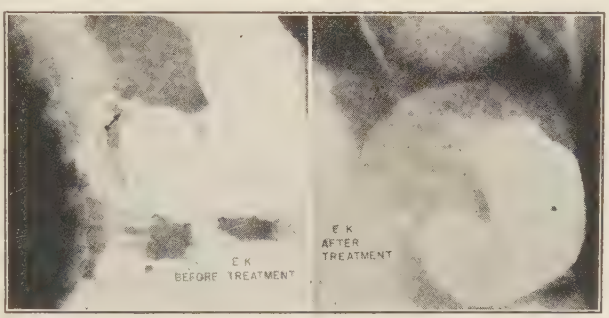

Fig. 1.—Case 1, Miss E. K.; before treatment, six hour gastric retention. It took seven days for the duodenal tube to pass the pylorus. After two weeks of duodenal alimentation there was no six hour residue.

teen pounds. The patient had hyperacidity with a value of 96 for total acidity. The string test showed blood from fourteen to eighteen inches from the lips, and bile from twenty-four to twenty-eight inches. The roentgenogram showed an epidiaphragmatic hernia. On February 27, 1944, the swallowing sound was present after fifteen seconds. The duodenal tube was introduced on March 1, 1944, and entered the duodenum on March 3d, when duodenal alimentation was carried out. The tube was removed on March 17, 1944. The x ray showed that the hiatus hernia had disappeared.

CASE III.—Mr. P. F., aged thirty-eight years; second admission March 8, 1944. The patient had a gastric hemorrhage in 1940 after having had stomach pain for one week prior to the hemorrhage. After this he was completely well, on a special diet. On the day of admission, March 8, 1944, the patient fainted at work and had a bowel movement with a tarry stool. He was admitted to the hospital in a condition of shock with a severe hemorrhage. The string test on March 9th

*Read before The New York Medical Union, at Lenox Hill Hospital, June 6, 1944.

showed blood from seven to fourteen inches from the lips, and no bile. The x ray on March 16th showed a marked constant deformity of the duodenal cap. The patient complained about some difficulty in swallowing. Olive oil, one-half teaspoonful twice daily, was given and this relieved the condition. Tube treatment was introduced on March 19th, and finished on April 3d.

Fig. 2.—Case I, Miss E. K.; showing Einhorn tube in place.

In all three cases a duodenal ulcer was found and a spastic condition seemed to be present at the pylorus and also near the cardia. In the case of Miss E. K. the spastic condition was quite pronounced; the swallowing sound was absent at first, and later much delayed, appearing about twenty seconds after deglutition and the pylorus did not let the tube pass through this gate for seven days. In the case of Mrs. D.W., the swallowing sound was heard about fifteen seconds after deglutition. She had besides, a high acidity of ninety-six of the gastric contents; the tube entered the duodenum after two days. In this case the x ray gave the additional finding of a hiatus hernia of the esophagus. In the third case, that of Mr. P. F., a difficulty in swallowing was encountered following an epi-

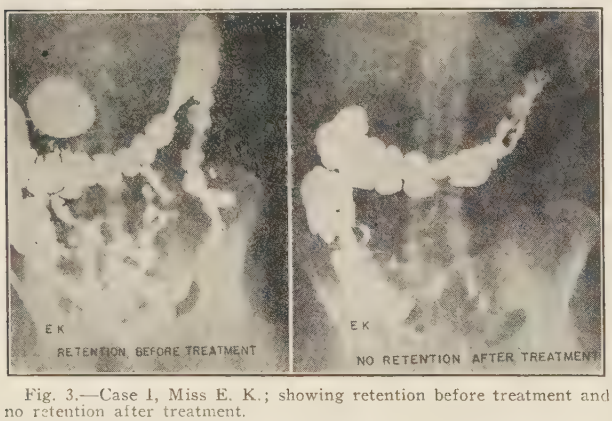

Fig. 3.—Case 1, Miss E. K.; showing retention before treatment and no retention after treatment.

sode of a hemorrhage. The string test showed that there was a pathological condition present in the esophagus itself, besides the ulcer in the duodenum.

The rest treatment applied in these three cases of ulcer by the duodenal tube led to the disappearance of a spastic condition at the two outlets, cardia and pylorus, and to a simultaneous healing of the ulcers. It is justifiable to assume that the spastic condition of the cardia was due to the ulcer of the duodenum and subsided after the healing of the ulcers through the tube treatment. The hiatus hernia of the esophagus of Mrs. W. disappeared after the tube treatment.

I want to add here another patient with a very severe ulcer near the cardia, and which appeared to be hardly accessible to operative intervention. This patient, however, was subjected to the duodenal alimentation treatment and made a good recovery.

These cases show the importance of the rest treatment which is obtained by duodenal alimentation in

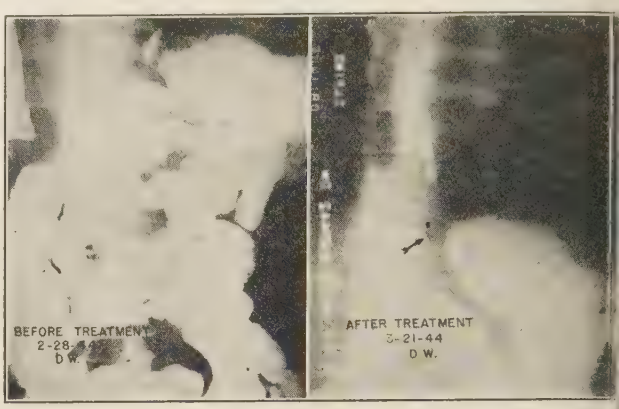

Fig. 4.—Case II, D. W., before treatment hiatus hernia is visible near cardia; after treatment, the hiatus hernia had disappeared.

the healing of ulcers and the disappearance of dysphagia due to cardiospasm or pylorospasm and occasionally also to the healing of a hiatus hernia.

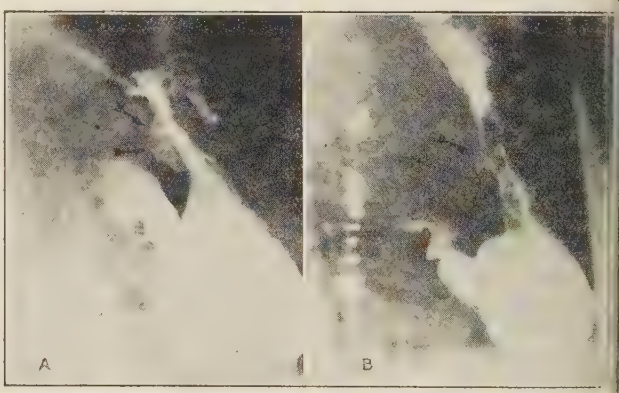

Fig. 5.—Miss K. L.; (A), before treatment with ulcer near cardia visible; (B), after two weeks of duodenal tube feeding, the ulcer has almost disappeared.

I am under obligation to my friends and colleagues Dr. H. A. Rafsky, Dr. Charles I. Krieger, and Dr. Charles Lillien for carrying out the treatment of the cases described, and to Dr. Francis H. Ghiselin for the excellent roentgenograms of the patients taken before and after treatment.

20 EAST SIXTY-THIRD STREET

Tuberculosis a Major Health Problem in Alaska

Tuberculosis is by far the most important public health problem in Alaska. At least two factors now stand in the way of an effective program for its control; the lack of anything even approaching adequate hospital facilities, and the failure of the white population to understand the seriousness to them of the great numbers of cases among the natives. Methods of finding and reporting cases are poor and there is an astonishingly large number of deaths that occur without any medical attendance, so that the cause of death is given as "unknown". The figures for tuberculosis deaths are admittedly incomplete for these reasons. Even so, they represent death rates for whites of 48 per 100,000. The rate for the United States among white persons in 1940 was 37 per 100,000. The native death rate of 728 is nearly fifteen times the rate for the United States—Carl E. Buck, Dr. P. H. and G. Hays, M.D. in *Alaska's Health*, December 1943.

AUDITORY DIAGNOSIS

The Importance of Good Hearing in Medical Practice

M. MARTYN KAFKA
New York, N. Y.

The ears are vitally related to some of the principles of physical diagnosis, particularly when the stethoscope is used in the examination of the chest. Every physician practising general medicine should take care of his hearing. Defective hearing often may be misleading in the interpretation of the sounds heard through the stethoscope.

I cannot see any reason why the general practitioner should not have a semi-annual examination made of his own ear, nose, and throat. Most important are the hearing tests. In some physicians, as they grow older, not only are disturbances of the hearing mechanism in either ear apt to develop, but there is a possibility that tinnitus aurium may be associated with a mild or marked hearing deficiency. When hearing deficiency and tinnitus aurium have developed in one or both ears, it is of paramount importance that the etiological factor be ascertained before treatment is begun. In this way the best results will be obtained.

Etiological Factors in Tinnitus Aurium

Clinicians have often found that tinnitus has not only been created but aggravated by foci of infection in the tonsils, teeth, sinuses, mastoid, appendix or the prostate gland. Focal infections also have been found in the mastoid antrum wall, and under such circumstances persons have had auditory upsets caused by local absorption into the auditory nerve. Persons suffering from this condition have noted mild symptoms of deafness. Lingual tonsillitis and chronic pharyngitis also may produce tinnitus in one or both ears.

Foreign bodies or cerumen in the external auditory canal may be a common cause of deafness with or without tinnitus aurium.

Not uncommonly drugs such as quinine, salicylates, ergot, aspirin, alcohol, mercury, caffeine, carbon disulphite, arsenic and morphine have a peculiar selective action on vessels of the ear as well as the eye.

When pressure from a pineal tumor is directed further backward, involving the posterior quadrigeminal regions, such auditory signs as ringing and buzzing in the ears are common. The loss of hearing is bilateral, but is unequal in degree. (In advanced cases there may be also such signs as stiffness of the neck with some degree of opisthotonos, giddiness, eye palsies, vomiting, retinal changes and choked disc.)

Under rare circumstances in the presence of auditory nerve involvement, tinnitus, deafness, giddiness and vertigo may be found. In such a condition there may be headache, plus signs of otorrhea, facial paralysis, and herpes due to the involvement of the geniculate ganglion. The deafness may precede or follow the development of these symptoms. The noises in the ears may be continuous or intermittent, and increasing or diminishing in intensity. The deafness may be unilateral or bilateral.

In a series of 915 cases of toxic neuritis which were studied, 455 patients were found to have been suffering from anemia, and 271 of these complained of vertigo. At times, tinnitus has been found in patients who were suffering from pernicious or secondary anemia. Tinnitus resulting from a disturbance in the special sense of hearing is often difficult to separate clinically from vertigo, of which it is often a symptom.

Tinnitus has often been found in patients suffering from hypertension, in the prealbuminuric stage of Bright's disease or in conditions of latent arteriosclerosis, presclerosis or hypertensive cardiovascular disease. Also, ringing noises in the ears may be present in such conditions as hookworm disease which may be associated with hemic murmurs, venous pulsations of the neck, with a weak and an easily compressible pulse, and with irregular menses in female patients.

Loud reports from cannons or bomb explosions have a similar effect in producing noises in one or both ears with or without deafness. This type of deafness may be temporary and usually disappears if exposure to these explosive sounds is not too long continued.

Incidentally, plant physicians may be exposed to noises, and when this occurs it may be considered as a traumatic agent affecting the cochlear apparatus. The gravity of the affliction depends upon the alternation of work and rest periods; as well as upon the hygienic condition of the nose and the type of nasal breathing.

In early otosclerosis vague noises may be present in either one or both ears. These sounds may be described as the sound of running water, and whistling or ringing in character. There is no distinct recollection of the ear sounds. There may even be retention memory noises and these are comparable to hallucinations. They are frequently defined as perceptions with no objective stimulus to account for them. Actually, these sounds may exist only in sensory organs or sensory tracts.

Direct injury to an ear, as a blow directly struck and transmitted to the tympanic membrane, as in boxing, may cause tinnitus aurium with or without deafness. Also indirect injury, as an automobile or aeronautical accident, may cause noises in the ear.

Flying in high altitudes for long periods and sudden decent from high altitudes to low altitudes may cause temporary deafness or tinnitus aurium in certain medical officers who are not accustomed to flying. At times rupture of the ear drum may be produced by a rapid dive maneuver when flying in a plane. Doctors assigned to a special flight in a transport plane may experience deafness in one or both ears for many days or weeks after a prolonged air trip under difficult flying weather conditions.

Ear disturbances may be produced in medical officers who have sinus disease or a marked deflection of the nasal septum.

Physicians who take frequent trips by plane should have corrective medical care to the nose and sinuses before contemplating long journeys in an aeroplane.

67 East Fifty-ninth Street

THE DYNAMICS OF CELL RESPIRATION AND GROWTH AND THE IMMEDIATE CAUSE OF CANCER

FERDINAND RODER
Brooklyn, N. Y.

(Continued from page 410)

To give further proof to the statement that in the relation between pressure and growth the former is the causative factor and the independent variable, I briefly mention two cases in the field of pathology. One is the elastic hyperplasia in hypertension. The conditions for recognition of the causative factor are especially favorable in this case; they are similar to those in the experiment where plants were put into a plaster cast. Due to the structure of the small arteries, a permanent concentric pressure is exerted on the intima. The other is the hypertrophy of muscles, which is a sequel only of continuous severe work because the increased pressure outlasts the severe work and, thus, persists continuously. In strenuous work lactic acid and other waste products are never (as in stenosis of the aortic valve or high blood pressure) or only for a part of the time (as in the blacksmith's arm) fully disposed of and they keep the hydrostatic pressure on levels higher than normal, after the exercise (systole, blacksmith's work respectively) has ended.

Of special interest is a certain class of growing cells, the proliferating or repair cells in inflammation, as constituting a transition from normal to tumor cells. How inflammation causes one part of the cells to become proliferating (hyperenergetic), another part degenerating (hypoenergetic) has been set forth in two previous publications (25, 28), in which proliferation and degeneration in their various stages were correlated to corresponding steps of increased, respectively less or more defective cell respiration. Thus, the ascending line of the scale leads from normal over proliferation to cancer, the descending line from normal over less or more severe stages of degeneration to necrosis. This conception received its first support in the experiments of Gessler (26), who induced inflammation by injecting formic acid or mustard oil under the skin or by scalding the skin. The analysis of respiration of the excised tissue (carried out in order to decide the question whether inflammation could be considered an enhanced vital process) revealed that the area which had been under the immediate influence of the agent (which means under the influence of higher concentration and of heat respectively) had diminished respiration, whereas the distant area (which means the area that was under the influence of lower concentration of acid, of oil or under the influence of low heat) had increased respiration. Corroboration was found in subsequent experiments of Borger and Groll, Bricker and Tscharny (28), who applied a diversity of inflammatory agents. A striking confirmation of my conception, as far as the descending line is concerned, is furnished by recent work (27), which in addition exposes the responsible factor by showing that the primary effect of radiation is diminution of cell respiration, effected by action on the nuclear and cell membrane. The stages of rapid degeneration can now be seen in Canti's moving pictures of the cellular response to radiation, among them vacuolation and granulation. That impairment of cell respiration must have such manifest consequences has been shown in my publications cited above.

Let us return to the ascending line, follow it up and see where it leads. If an animal cell is subject to repeated inflammation or constant irritation, the level of all its energies, represented by the free energy of this distinctive chemical system and defined as well in terms of chemical potential of the reacting substances (oxygen and decomposition products) or their gas pressure as in terms of hydrostatic pressure, will be gradually raised. Each inflammation or each application of an inflammatory agent sets the pressure and all the other energies in the cells at the periphery (in the suburbs) of the inflamed area in ever higher gear steps them up and drives them ever nearer to the critical point. When the extreme instance, the limit of the extensibility of the membrane, is reached, a biological change takes place in the type of respiration, as described above, "discontinuous in character, new, strange, abrupt and irreversible". Revolution has taken the place of orderly development and evolution. However, it is in quite different cells that it has taken place: in an isolated, "sickish", poor cell, too rich only in water on the one hand; in a hyperenergetic cell which starts new growth and a new life with draining fresh energy from its host on the other hand. These two cells have only a single factor, but one which works differently in the two cases, in common: rapidly growing pressure and slowly growing pressure respectively. The effect of the pressure is in the one case baseless inflationary growth and rapid death, in the other case solid and parasitic growth and long life which continues until the death of the host. That energy is the decisive factor in the fate of the cells when the limit is reached shows a comparison of Loeb's experiment with that of Mider and Morton (29), where the limit was reached also by one operation.

Where and when will the overthrow of normal respiration and orderly growth start, what consequences will it have, and do these consequences square with the typical characteristics of cancer?

1. Site of origin: (a) Cancer originates at the site of its precursor, which in turn originates at some distance from the agent, i.e., in the area of low concentration of the agent. "The sarcomas appearing in response to an injection of benzpyrene into the connective tissue originate at some distance from where it exists in greatest concentration." (38) (b) It is unlikely that the critical point is being reached in each member of a group of cells at the same time. Punctate alteration.

2. Favored time of incidence: Age over sixty. Decreasing elasticity of the cell membrane with increasing age.

3. The cell is larger than normal and nucleus and nucleolus are larger than in normal cells. The hydrostatic pressure is at its highest possible value. (b) The

contain more inorganic substances. Their osmotic pressure is higher than that of normal cells.

4. Predominance of fermentation under aerobic conditions. If I had to prove that a change in the type of respiration takes place in hyperenergetic cells when I deprive them of the alleged oxygen surplus which is the base of activation, I would first set these cells under anaerobic conditions, wait until they had used up their surplus and then examine their respiration. They would have to show the same kind of metabolism as cancer cells under anaerobic conditions and less oxidative and more fermentative activity than normal cells in oxygen, as re-storing and replenishing of oxygen (repay of oxygen debt) takes time. This is just what happened when Warburg (30) asphyxiated chicken embryos and analyzed their respiration some hours later. The cancer cell is like an asphyxiated cell. That it does not use the power used by every other cell which has an elastic membrane proves that it is not able to use it. That the cancer cell has lost oxidative power has been shown by Kögl and Exleben (31). A cell which is not able to activate oxygen is bound to act like a cell which has no oxygen.

5. Increased and restraintless growth: (a) Fermentation has no tendency to decrease the osmotic pressure; on the contrary it raises it. Decomposition produces substances of high osmotic value which are not removed, as they normally would be, by oxydation and thus are rendered osmotically inactive, and ionization drives the pressure still higher. (b) The directing factor in normal growth, activation of oxygen regulating the scale of growth controlled in turn by hydrostatic pressure and membrane tension, has left the scene with the membrane tension and no (such) limit is set to osmotic pressure as it is to hydrostatic pressure. No longer subject to control, growth becomes restraintless.

6. Continuous and rapid growth: The cycle of events, seen from the angle of energetics, is the following: Infinitesimal creation of a gradient in osmotic pressure by constant outflow of decomposition products, constantly disturbing the equilibrium, on the one hand, and transformation of mechanical energy (made possible by that degradation) into equivalent amounts of chemical, intramolecular energy, i.e., new decomposition, which is being accelerated by fermentative enzymes, on the other hand. It is apparent that this circle of processes is a vicious circle. Whereas normal growth stops when the hydrostatic pressure returns (or is allowed to return) to normal, the tendency of every free energy being to decrease, no such spontaneous decrease can be expected in this circle, where each infinitesimal decrease in pressure is being followed by an equivalent increase in decomposition, pushing the pressure back again to its former level. (b) It is further apparent from this circle that mechanical energy is being transformed directly into chemical energy and not, as in normal respiration, by detour via compression, whereby energy loss is occurring (heat). This means saving of energy and greater growth efficiency. In studies on the "Influence of oxygen tension on respiration, fermentation and growth" (15), carried out on seeds, it was found that "in promoting growth, the energy released anaerobically in fermentation is more efficiently used than the energy liberated in oxidative respiration."

7. It can be safely assumed that the permeability of the cancer cell is increased (a) on account of its higher acids content; (b) on the basis of the sieve, solution and colloidal theories of membrane action. How little or great the effect of the factors proposed in these theories may be under normal conditions, it is certain that the greater the expansion of the membrane the greater the effect will be and that the effect will be greatest at the extreme instance, in such a radical change of the physical and chemical properties of the cell. As permeability has two sides, not only the outflow of solutes will be greater but also the inflow. The steadiness of the outflow of decomposition products, not present in normal respiration where the gradient of outflow and inflow is constantly varying with every step and every stage of respiration, may be a contributing factor to greater intake, i.e., avidity. That increase in the surface of the membrane is associated with greater permeability shows the descending line of respiration. Here is an enlargement also brought about by impairment of respiration, which takes place, however, in an orderly and gradual rather than an abrupt manner: the transmigrating of albumin in cloudy swelling of the kidney and the immigration of fat into cells already fatty degenerated. Particles enter and leave the cells the gates of which are normally closed to them. In the temporary cancer cell in Fischer's (32) experiments, a dye normally not suitable for vital staining, enters the cells because the doorways have been enlarged by its accomplices, oil (inflammatory agent) or ether. It leaves the cell with still greater ease when the membrane is enlarged to the limit. The dead cell retains this property and reveals it by hyperchromatism.

8. Contact spread, infiltration, diversity of carcinogens: (a) In applying my conception of respiration and inflammation to the characteristics of cancer, in particular to its spread, I explained this distinctive property in a previous publication (28) by the catalyzing, hyperenergizing and, therefore, predisposing effect of lactic acid of low concentration on the respiration of the neighboring cells. This anticipated effect, now called contact spread, is realized today. It strengthens my belief that my conception of the cause of this effect also will be realized. Today when everything points to the conclusion (33), "that cancer cells have the power of liberating substances in the nature of enzymes, cell products which have the power of inciting continuous growth, which act on normal cells causing them to assume the properties of malignant cells, these in turn producing further quantities of this self-perpetuating agent," and when we link this conclusion with the facts, that weak acids are capable of producing cancer; that acids increase the respiration of cells where and when they act in weak concentration; that the carcinogens first produce destruction, followed by repair (which means more or less severe inflammation); that the tissue may apparently be malignant before any structural change can be detected (34), and that in the absence of the alleged cause the effect also is absent (no secondary growth in muscles, that habitual place of lactic-acid destruction although they are flooded with emboli), my explanation of the cause of contact spread is better substantiated and supported than it was fifteen years ago. Lactic acid flow is the malignant wave the crests of which are its concentrations diminishing

in power with the distance; lactic acid is the catalyzing and self-perpetuating agent. The cells in Murray and Woglom's (34) experiment, apparently malignant, normal and sound, had certainly already some deficiency in oxidative power, synonymous in my view with display of glycolytic power. The cause of it was tar painting (interrupted, cut short before the limit was reached) which damaged the membrane (as x rays or old age do) or (and) diminished the lipoids content. If further damage to aerobic respiration is superimposed by the act of transplantation, the same result may be obtained as by the sufficiently prolonged method.

(b) It is to be expected that different tissue will react differently to the same concentration of lactic acid. Connective tissue, a passive supporting tissue, has by its nature (the same is true of endothelial cells) under normal conditions a respiration which is being performed on a level that is lower than that of epithelial cells. Connective tissue cells must be much more lactic acid sensitive than these cells. They must be the forerunners in the race, the first to start and the first to succumb. What is a small wave for a liner is a high wave for a boat. In the lowest grade of lactic acid production the lactic acid produced by a benign tumor, if its respiration is impaired for some reason usually manifest in the degeneration of its cells, is sufficient to cause overgrowth of connective tissue. In the intermediate grade, in slowly growing carcinomas, where there is more formation of that agent, proliferation is extreme. In the highest grade, very rapidly growing and infiltrative carcinomas, there is little or no stroma; the way has been cleared of the weaker heterogeneous cells, while at the same time it is being prepared in the homogeneous cells.

(c) The power of a factor to produce malignant growth is tied up with its faculty of raising cell respiration. Every factor possessed with this faculty is a potential carcinogen. Their number must be greater than that of inflammatory agents the compass of which is limited according to the definition that "inflammation is a spatially limited tissue process the cause of which is impairment of respiration of the immediately affected cells, the characteristic of which is a change of respiration of the tissue elements, transgressing the norm, of partly regressive, partly progressive character (28)." If the primary object of attack of a carcinogen (in appropriate concentration) is connective tissue, sarcoma is bound to occur. It may seem paradoxical that lactic acid is not to be found in the list of carcinogens. The factor that continues the fire is not the one that starts it. Small and moderate concentrations of lactic acid would be disposed of; high concentrations in the body would be reduced to small ones and, at best, as pathology demonstrates, be capable only of producing benign growth; pure lactic acid acts as a caustic, that is, it abolishes respiration altogether.

9. Metastasis, transplantation, immortality: There is no apparent reason why a cell bearing within itself all these energies and getting more new energy than the other cells in the same body should not thrive as well under favorable conditions in a new neighborhood or a new body and should not live indefinitely, not endangered by the threats to which a cell with aerobic respiration is subject, impairment of this kind of respiration and consequently specific kinds of degeneration and eventual death.

10. Mode of action of the hormones and of the viruses: (a) The fact that the primary effect of the hormones (when they act as such) is not inflammation but increase of the work of the cells on which they specifically act draws the attention back to the muscle cells where similar effect is accomplished, not by means of a chemical, but a nervous impulse. Development of gland tissue is, in my opinion, brought about in the same way as hypertrophy of muscle (accumulation of decomposition products not fully disposed of, both effects occurring in pregnancy); progressive excessive growth of the gland occurs if the sex hormones are supplied in excess; and once excessive growth is set in motion either by the hormones alone or contributing carcinogenic agents the further course is set along the line described above.

(b) The way in which viruses act is quite different. As I have pointed out in a previous publication (35), narcotics in weak concentrations (or substances having a narcotic effect in weak concentrations) act on cell respiration in two ways: as lipoid soluble substances they seize the lipoids and thus prevent, if applied in very weak concentrations, a part of the oxygen globules from being formed; as surface active agents they occupy a part of the surface system necessary for normal respiration. The effect on respiration was studied by Meyerhof (36). Fertilized eggs in sea-water containing small amounts of ammonia, which inhibited development, showed increase of respiration, "quite unexpectedly" an increase of the caloric quotient, and considerable swelling. I explain these findings (the increase of the caloric quotient indicating a decrease in stored oxygen, the swelling indicating higher osmotic pressure, and the rise in respiration) on the basis of my conception of respiration in the following way:

The very first effect of the entering substance is increased dissolution of oxygen globules on a larger scale than that which prevailed before its entrance and an equivalent inhibition of their new-formation, an increased removal of osmotically active substances (by increased CO_2 and water formation) and, therefore, an initial fall in osmotic pressure. The initial fall produces greater decomposition, the principle valid in anaerobic respiration (see above) being equally valid in the anaerobic phase of aerobic respiration. The decrease in the absolute number of oxygen globules is overcompensated by the higher hydrostatic pressure which is the cause of the continued, increased (in rate) respiration, continued, however, only as long as the narcotic is occupying the surfaces. A similar rise and fall in respiration is known to take place if plants are under the influence of weak concentrations of anesthetics (chloroform, ether, ethylene) and it is noteworthy that the same class of substances has been found useful (by other workers) to promote growth (in resumption of growth, called overcoming dormancy, in artificial ripening, and in after ripening) and that the initial changes in such processes, "accompanying" them, were found to be rapid imbibition and increased water holding capacity (37). An identical process takes place when indol plus ether enters lung epithelium (see Fischer's experiment, 32) and an analogous process when viruses enter the cells, the essential difference

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Symposium on Internal Medicine

THE TREATMENT OF THE ALLERGIC STATE WITH ETHYLENE DISULPHONATE

CLIFFORD L. BARTLETT
Pasadena, Calif.

In June, 1940, Evans and his associates (1) published in London, under the title "The Chemical Control of Allergy" a new conception of the cause of the allergic state. Their thesis was stated briefly in their conclusions, as follows: "It has been suggested that allergy is an outcome of a disturbance in energy-producing carbohydrate breakdown."

They also described an oxidation reduction catalyst, ethylene disulphonate, which they had employed to overcome the disturbance in question. They first demonstrated that it would afford a degree of protection to animals against anaphylactic shock and then used it in the clinical treatment of the allergic state and therefore of allergic manifestations. The soundness of their theory and the unusually high percentage of the clinical results which they obtained were sufficiently impressive to make me decide that I would attempt to reproduce their clinical work, after first carrying out adequate experiments on animals to convince myself of the safety of the method. In May, 1941, a preliminary report of the first 137 cases of allergic patients treated with ethylene disulphonate was made in a paper read before the Pasadena and Alhambra Branch of the Los Angeles County Medical Association. Of these, some eight-five percent either had become symptom free, or were remarkably improved, at the time of reporting.

To date, 775 patients have been treated, of whom 247 are children under sixteen years of age. The latter group is being reported elsewhere (1a).

The object of the present paper is to report the 528 adult patients treated during a period of thirty-three months, ending June 15, 1943. In this paper, no attempt is made to discuss the theory of the chemistry in question, as those interested will be able to study it for themselves in another paper which will be published shortly. The catalyst which Evans and his associates employed was ethylene disulphonate[1] (allergosil brand) in high dilution. Their standard dosage was two cc. administered by intramuscular injection and this is the dosage which I have employed, save where otherwise specifically stated. The injection is generally given in the deltoid muscle in adults (gluteal in infants); intramuscular injection being important.

Injection into the muscle usually is followed by uncontrollable fibrillation of the muscle, lasting from one to three minutes. Injections are somewhat painful, the pain usually confined to the area of injection, but possibly radiating to the neck and down the arm. The duration is approximately the same as the duration of the fibrillation and there is no local aftereffect from the injection. Injection is followed by a reduction of blood catalase (Maisin, 1939) with a fall in the sedimentation rate, both of which gradually return to normal. A transient fall in blood pressure usually occurs and in patients with a naturally low pressure a slight temporary syncope may occur. This is usually self-limited and of no importance, but if the patient is in distress, or showing a tendency to faint, an injection of coramine will control the situation. In the treatment of acute cases the injection is sometimes followed by a short period, twenty-four to forty-eight hours, of exacerbation of the condition, with, in about six percent of the cases, the presence of fever and malaise. This usually occurs in those cases in which infection is at least an active portion of the clinical picture. Most of these cases show definite early improvement and on the whole this reaction may be considered a favorable sign.

In chronic cases the course usually follows one of three paths: 1, the gradual improvement beginning with the first treatment; 2, exacerbation of the symptoms may occur at intervals during the treatment, these usually being at some multiple of seven days and most often at the three, six, or nine week interval. These cases, however, show a gradual improvement with time; 3, no change in the condition. These latter are fortunately in the minority and are the ones in which treatment may be speeded up during the early weeks following the first injection. The dosage interval employed varied somewhat, according to the nature of the individual case, the age, whether the patient was in an acute or chronic phase and the patient's general health. In general, a patient in either status asthmaticus, a state of acute exacerbation of eczema, acute seasonal hay fever, or continuous or closely recurring attacks of migraine, was given three injections, with injection intervals ranging from eight hours to one week. In some cases they were spaced at seven, fourteen and twenty-one days. In milder or more continuous cases, as allergic rhinitis, one injection was given and subsequent dosage determined by the response of the patient. When more than one injection is necessary, the criterion is the response obtained during the first two or three weeks. So long as there was a reasonably good initial response in the average case, that is, an amelioration of symptoms, the suggestion of the British workers was followed, in that one injection was given and then observation kept for a period of nine weeks, before deciding whether further injections were necessary.

The average number of injections given in this series was 3.1 per patient. This average is definitely higher than in children, as would probably be expected,

[1]The ethylene disulphonate employed was prepared by Spicer-Gerhart Company, Pasadena, California.

inasmuch as the patients in the latter group do not present as many complicating factors as do the older group.

As a preliminary preparation of the patient as a basis for treatment, the original observations of the British workers are here quoted:

"This scheme refers only to the treatment of the chronic case. The acute case may be treated by immediate injection.

"On theoretical and experimental grounds the following plan of treatment of the allergic state has been evolved, the details and rationale for which are as follows:

"1. *Removal of intestinal toxemia:* "The bowel is washed through by drinking one quart of cold or warm water half an hour before rising. The water contains two level teaspoonfuls of table salt and the whole quart should be drunk in five minutes. This is repeated the two following mornings, and afterward once a week.

"2. *The following drugs are withheld*: "Morphine, barbiturates, alcohol, tobacco and aspirin, as far as reasonably can be carried out, for one week prior to injection and for three weeks afterwards.

"3. *Diet*: (a) Provision is made for an adequate diet of normal energy value.

(b) The patient is advised to avoid meat for one week prior to and for three weeks after the first injection.

(c) A high vitamin B_1, B_2 and C diet ('live food') is prescribed.

(d) In addition we have found the exhibition of nicotinic amide to be useful in conjunction with vitamin therapy. Because of the difficulty of obtaining this, and because of its similarity with coramine, we have used the oral preparation of coramine (Ciba), giving 0.5 cc. twice daily in water for one week before and one week after the injection."

The above dosage of coramine is accepted in a routine adjuvant therapy; but in cases in which there is any demonstrable cardiac decompensation, or in older patients, the dosage is definitely stepped up to twenty or thirty minims, three times a day.

The drugs which the British workers found contraindicated, fall mainly into two classes, the anesthetic drugs and the sedative drugs. The reason for this has been well established experimentally, it being demonstrated that these drugs inhibit cellular oxidation (2, 3), the acceleration of which is the thing desired in this treatment. It has further been observed clinically that the sulphonamide series and quinine should be withdrawn for the same reason. These drugs are withheld during the period of treatment and observation. If it becomes necessary to use any of the prescribed drugs for the adequate care of an intercurrent illness, and a return of the allergic symptoms results, treatment is repeated at such a time as the physician may determine and after an adequate period of time has been allowed for the elimination of the drugs. The use of opiates in allergy is to be avoided and particularly so in asthma.

Based upon the known facts of cellular metabolism and the empirical experience with the use of ethylene disulphonate, a certain routine of treatment has been established, differing in some degree from the earlier workers. Proteins in the form of animal protein are reduced to a minimum for at least a week previous to beginning treatment and for a variable time afterwards. This minimum has arbitrarily been established at a replacement value of protein based on the age, weight and activity of the patient. It has been shown that many allergic patients are absorbing excess quantities of incompletely split proteins which, even if not acting directly as allergens in a particular case, do increase the burden of cellular metabolism (5, 6, 7). Aminoids have been found useful in many cases in supplying the protein requirements, especially in old or depleted patients. Many allergic patients seem to have difficulty in metabolizing free sugar and it has been observed that they do better on a low sugar intake during the period of treatment, substituting the needed carbohydrates in the form of whole grain cereals. This observation is most easily explained by the fact that sugar is a substance demanding rapid oxidation and this adds to the burden of a system which is already essentially below normal. There have also been a number of individuals in this series who have shown what could only be interpreted as allergic

Summary of 528 Adult Cases of Allergy Treated with Ethylene Disulphonate

Allergy	Total Number of Cases	Percent of Total Number	Status of Treatment	Number of Cases	Percent	Result of Treatment
Asthma	285	54 percent	Completely relieved	134	47	Satisfactory results
			Practically relieved	97	34	231 or 81 percent
			No relief	54	19	
Hay fever and Allergic rhinitis	158	30 percent	Completely relieved	70	44	Satisfactory results
			Practically relieved	55	35	125 or 79 percent
			Partial or no relief	33	21	
Migraine	48	9 percent	Completely relieved	36	75	Satisfactory results
			Practically relieved	9	19	45 or 95 percent
			No relief	3	6	
Eczema	37	7 percent	Completely relieved	24	65	Satisfactory results
			Practically relieved	10	27	34 or 92 percent
			No relief	3	8	
Total	528	100 percent	Completely or practically relieved	435	82.4	Satisfactory results
			No relief	93	17.6	

NOTE: Several of the cases listed as failures were later found to be morphine addicts, constant users of barbiturates, mild, or moderate alcoholics. Emphasis upon the removal of these things cannot be too strong and when failure occurs they should be looked for. Naturally, the patient will hide this from the physician as much as possible.

eactions to certain groups (8) and to malt suspensions f the vitamin B complex.

Case Reports

The following are a few illustrative typical cases:

Case 1.—M. L. H., adult female, forty-two years f age; severe seasonal (spring and fall) hay fever ince childhood. This patient at times was so severely ffected that she was unable to open her eyes. She had ad several recent attacks of early morning asthma of mild character. Injections of two cc. of ethylene isulphonate were given on the following dates: May 3, 26, and 31, 1941; June 14, August 30 and Noember 6, 1941, at which time she was entirely symptom free. She was last seen on July 21, 1942, having ontinued symptom free. Meanwhile, she had completed her course as a nurse's aid and when last seen was taking care of a case in the hospital.

Case 2.—F. V. V. D., adult female, aged fifty-two years, with almost a life history of seasonal hay fever and allergic rhinitis. The conditions varied in intensity during different seasons and in changed environmental conditions. The first injection of two cc. ethylene disulphonate was given on March 5, 1941; the second injection on October 22, 1941, shortly after which she became symptom free. She was last seen on July 15, 1942, at which time there had been no recurrence of symptoms whatever.

Case 3.—C. L. B., migraine in adult male, aged fifty-one years. This had been present since early adolescence, and an attack, of varying intensity, usually occurred weekly. An injection of two cc. ethylene disulphonate was given in September 1940, and this dose was repeated in April 1941. Since the first injection, there has been only one mild attack of migraine, which occurred during the first month after the first injection.

Case 4.—V. C., adult female, aged thirty-two years, married. She had had juvenile eczema, which cleared up following removal to California when she was eleven years of age. This was followed by the advent of migraine early in adolescence, which persisted but was never severe. The patient was first seen on September 25, 1942. Eczema was marked and covered at least seventy-five percent of her body. She had had all of the routine desensitization treatments. She had lost the sense of smell and color perception. The first treatment was given on her first visit and two more were given at eighty-four hour intervals. An acute exacerbation followed the first injection, lasting three days, after which there was a rapid clearing of the condition. The patient was last seen on November 27, 1942. There were scattered small discrete spots on the elbows and on the abdomen above the navel. She had had one mild headache the previous week, which lasted only one hour. She telephoned on January 10, 1943, stating that her condition was normal.

Case 5.—J. A. P., adult male, aged fifty-six. He suffered from asthma of recent origin; two years' duration, following influenza and severe bronchitis. A gradual increase in the severity of the paroxysms made patient unable to work. He was first seen on August 7, 1942. The first injection was on August 9, 1942, and the second on August 20th. There was gradual improvement. The patient was free from asthma three weeks after the first injection and has remained so to date.

In this clinical study the work has been limited to asthma, hay fever and allergic rhinitis, allergic dermatoses and migraine. Of these, hay fever, with its often attendant sinus involvement, offers the greatest clinical difficulty. This is true, we believe, because, in the majority of these cases, there is an existing tissue pathology which acts as a recurring trigger point, and also, the majority of these cases have an associated local infection. For these reasons, we have later insisted that all cases of this type be treated in conjunction with a good rhinologist. In migraine, on the other hand, there often is a complete response with one injection.

The terms "symptom free", or "completely relieved" may be taken to indicate something more than a simple disappearance of the asthma, or hay fever. It has been observed in this series that, after treatment, patients suffering from food allergy have been able to eat with impunity those foods which hitherto certainly provoked attacks, while those in which the allergens included such common substances as animal hair, feathers, various pollens, etc., have also been able to sustain constant exposure to such substances without experiencing the attacks previously certain to appear. A rather common observation male by asthmatic patients was that formerly a common cold meant a severe attack of asthma. Following treatment, this sequence of symptoms did not occur and the patient had no asthma during the acute respiratory infection. That subsequent recurrence of allergy may appear in those at present symptom free, is of course possible, but only observation over a longer period of time will determine this. The degree to which the patients revert to a normal physiological state is in all probability variable. And the fact remains that the same factors which established the allergic manifestations in the first place may occur later. The degree of response to medication, just as the degree of physiological dysfunction, does vary in individuals and the criterion of cure is variable, with the element of time as the largest factor.

Factors in Treatment of Allergy

Perhaps the successful treatment of allergy may be said to depend upon three factors:

1. The hereditary factor, or inherent chemical lack in the body cells, in which normal cellular oxidation is disturbed.

2. The emotional factor, which in turn, is largely environmental.

3. Such pathological states as may exist in the patient, other than his allergic state and which, directly or indirectly, influence the picture.

Comparing the importance of these three factors in the treatment of these 528 cases of allergy, it is probably safe to say that the chemical factor is definitely the most important. In this series, the introduction of ethylene disulphonate into the body economy has been successful, regardless of the other two factors, as is amply demonstrated by the comparison between the responses obtained in the treatment of very young children, in whom there had been no effort to control the psychological situation and those in adults. Nevertheless, experience with this group of patients has emphasized the necessity for taking into consideration the treatment of a patient as a whole and wherever possible, reestablishing normal physiological function and anatomical structure.

It has been further observed that, in a varying degree, some emotional imbalance is present in practically all allergic patients. The degree in which this factor enters into the picture as a whole varies widely and in some cases an emotional deviation may be difficult to demonstrate. In a considerable number, however, this factor was the initiating cause. Later, an apparently satisfactory emotional readjustment was made, although the allergic manifestation continued. Whenever this factor manifests itself to any extent, it naturally should be taken into consideration and the physician should in so far as possible establish a readjustment. Certain workers in the field of psychology (4) have recently endeavored to establish that the entire problem of allergy is psychological. The evidence of their own published reports entirely fails to establish their thesis. It is, however, a factor of varying intensity and effect in allergic individuals and may act as a trigger mechanism, just as do physiological, or anatomical, deviations.

Although it is probable that the majority of chronic, or socalled chronic, sinus cases are in the main allergic, others do have demonstrable infection, in which an attempt should be made to eliminate the infective process. Cases of allergic rhinitis do present anatomical deviations which, if acting as points of irritation, should be remedied. In a certain number of allergic patients, especially those manifesting food allergy, the presence of various intestinal parasites may be a complicating factor. It is peculiarly noticeable that no small percentage of these cases have heavy infestation with giardia lamblia. It will also be found that a great many allergic patients suffer from some deviation in their gastrointestinal function. This may be the cause of the constipation which is so common. It may be aggravated by the presence of parasites. Both liver and pancreas are commonly found to be in a condition of hypofunction. It is therefore good therapy to establish normal daily evacuations, without the use of cathartics, and where the digestive enzymes are insufficient, they can be adequately supplied.

In the older cases of respiratory allergy, bronchiectasis and emphysema may complicate the picture and should be given full consideration. There is probably no field of medicine in which it is more necessary to evaluate the entire patient than in the treatment of the allergic individual.

Summary

1. A new conception of the basic cause of the allergic state is briefly formulated.

2. A general scheme is given for the application of this theory in therapy.

3. A tabulation of the results obtained in five hundred and twenty-eight treated cases in adults above the age of sixteen is given.

4. Certain clinical observations are made.

Conclusions

The clinical results obtained and the time of their duration indicate that the treatment of the allergic state with ethylene disulphonate offers a definite advance in the therapy of this condition.

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65 North Madison Avenue

AN EPIDEMIC OF INFECTIOUS MONONUCLEOSIS

With a Report of 220 Cases

SAMUEL L. IMMERMAN

Philadelphia, Pa.

From about May 1943, up to the present time, I have observed 220 cases of infectious mononucleosis. The diagnosis was based on the following observations:

(a) In thirty patients the diagnosis was made by a blood smear a few weeks or longer before symptoms developed. These patients were seen for various conditions—routine check-up, old cardiovascular disorders, neuroses, etc. (b) The character of the blood smear and symptoms. (c) The follow-up of many patients for months after recovery. With respect to the diagnosis by smear, in fifteen cases of pharyngitis in which the heterophile antibody test was negative, Warren (1) found that the cells typical of infectious mononucleosis were present in numbers of from one to ten percent of the differential count. Depression of the polymorphonuclear count, the appearance of monocytes and occasionally a positive heterophile antibody reaction (2, 3) have recently been stressed in the literature in atypical pneumonia (3), certain gastrointestinal conditions (4), jaundice (5), undulant fever (6), other disorders (7).

Another epidemic of infectious mononucleosis has recently been reported from England (8), and the subject in general has been reviewed by Bernstein (9).

The Blood Picture

The typical cell of infectious mononucleosis is somewhat larger than a small lymphocyte, the nucleus is eccentrically situated, has an irregular border, and sometimes shows vacuoles. The cytoplasm is of a lavender shade. In addition, there occur cells, that here will be called intermediate cells, which in appearance are intermediate between normal lymphocytes and normal

monocytes. Typical cells are usually most abundant in the earlier or middle stages of the illness[1].

According to the literature (10), total white cell counts range from 1500 to 50,000. The distribution of the relative differential granulocyte count in the present study of 220 patients reveals that, if only one smear is made, most cases (mode or plurality) have about fifty percent granulocytes. One-third of the total number of patients had polymorphonuclear counts of forty-five percent or less. Twelve percent of the total number were fifteen years of age or less. In the age group between twenty and fifty years, almost half of the patients had counts of forty-five percent or less. There were no counts below thirty-six percent in the age group above fifty years. These figures show that, although age has an influence on the relative depression of the granulocyte cells, the chief factor was the illness itself and not the age of the patient. There were nine patients with counts of sixteen percent or lower. Total white counts in two patients revealed the polymorphonuclear depression to be absolute. These nine patients were scarcely ill, the complaints being of a more or less minor nature. In contrast to the marked depression of the (relative) granulocyte count there were only ten patients (4.5 percent of the entire group of 220) with a polymorphonuclear count of seventy-six percent or higher.

A comparison in forty patients, before and after an attack of grippe, showed a distinct tendency for the polymorphonuclear count to rise during the attack and to fall subsequently to its previous level. Acute follicular tonsillitis had a similar effect; in three patients in which total counts were made there was an absolute rise. A similar comparison in forty-two patients presenting gastrointestinal symptoms showed but little of this tendency, except that in two patients there was a leucocytosis above eighty-five percent; this is important as it may suggest acute appendicitis.

Followup blood counts.—Eighty patients were followed for a varying period up to the end of one month; of these, seventy-four percent had counts of fifty-five percent, or below. Fifty-one patients were followed to the end of two months, and of these, fifty percent had counts of fifty-five percent or below[2]. Sixty patients were followed to the end of five months, and eighty percent showed counts of fifty-five percent or lower. Five patients at the end of six months, and four at seven and eight months, still showed some depression of the polymorphonuclear count and abnormal lymphocytes. The abnormal blood picture evidently persists longer than the few months usually stated. One patient, seen four and a half years after his original attack, still showed an abnormal picture; it is not known whether his granulocyte count had been continuously depressed in the interval. Farley (11) has reported the same finding in a patient seen at the end of ten years. Sulfonamide drugs were used in eight patients, being prescribed four times by myself and four times by other physicians.

Age distribution.—All age groups were well represented. This is in contrast to the statement that infectious mononucleosis is a disease of the younger age group.

[1]A report of the exact distribution of these cells according to the Downey Classification will be made in another communication. (Downey, Hal, and McKinlay, C. A.: Acute lymphadenosis compared with acute lymphatic leucemia, *Arch. Int. Med.*, 32:82 (July) 1923.)

[2]The variation of the percentages in these groups may be due to an intervening epidemic of grippe.

Symptoms

Thirty patients were seen weeks or longer with typical blood smears who were asymptomatic at the time when first seen. Many patients showed a tendency to recurrence in different groups, i.e., at one time the patient was febrile and fatigued, a month later the same patient developed grippe, and later gastroenteritis. For this reason the total of the physical signs would exceed the total number of patients seen.

1. *General group.*—While glandular enlargement was sometimes found, the glands were not especially conspicuous in this group:

(a) Fever, in the absence of grippe, tonsillitis, etc., was the presenting complaint in eleven patients, of which two showed glandular enlargement, one a palpable spleen. Some of these had recently returned from a summer vacation; agglutination tests for typhoid and undulant fever were negative. On account of the long duration of the mild temperature, four patients were subjected to chest x ray examinations, with negative results. There was no tendency for recurrence of the fever in the absence of complications.

(b) Fatigue and weakness. Fatigue, not previously experienced by the patient in like degree, in the absence of a history of grippe, etc., was complained of by eighteen patients; in some it was almost disabling. Four patients showed fever while under observation, eight glandular enlargement, and one a palpable spleen.

(c) Pain (exclusive of head pain). Pain complained of by eight patients, in the absence of fever was thought to be of muscular and/or arthritic origin; five others complained of pain in the neck, and two of groin pain. The two latter patients with enlarged groin glands, showed no venereal disease, negative Frei and Wassermann reactions, and negative proctoscopic examination; the five former patients, who complained of pain in the neck, showed no pharyngitis and no palpable glands as such, but two had swelling or bulging of the sternomastoid muscles indicating probably swelling of the deep cervical glands (not palpable).

2. *Lymph nodes, tonsillitis, spleen.*—(a) Easily palpable lymph nodes occurred in twenty-six patients (twelve percent). Nine suffered from tonsillitis, four from grippe, and the remainder complained of localized pain or general complaints. The spleen was palpable in eight.

(b) Follicular tonsillitis or pharyngitis. By this term is meant a condition in which a nonconfluent exudate is present on the tonsils or pharynx. There were nineteen cases (nine percent), but only four of these were severe, with marked exudate and numerous neck glands. In ten patients the diagnosis of infectious mononucleosis had been established by blood smears some weeks or longer before the onset of the tonsillitis. The spleen was palpable in nine patients.

(c) Palpable spleen. The spleen was palpable in twenty patients (ten percent of the entire group), in seventeen of which either prominent lymph nodes or tonsillitis, or both, were present. Seven patients were above twenty-five years of age.

3. *Gastrointestinal symptoms.*—Owing to the fact that there was prevalent in Philadelphia and vicinity an epidemic of both grippe and gastroenteritis, it is difficult to say whether the gastrointestinal symptoms were due to infectious mononucleosis as such or whether they represented a superimposed illness. There were

fifty-one patients (twenty-three percent of the entire group).

(a) Nausea, sometimes with vomiting, often recurrent, was a rather frequent complaint.

(b) Generalized abdominal pain without diarrhea, and necessitating the differential diagnosis chiefly from acute appendicitis, was observed in fifteen patients. One patient who had a marked polymorphonuclear leucocytosis, a white cell count of 18,000, with ninety-two percent polymorphonuclears, at which time the small percentage of lymphocytes were practically all typical cells, and who showed abdominal rigidity, was operated upon. The only abnormal finding was an enlarged spleen, which became palpable postoperatively. This patient had also been seen two months previously for a minor ailment and had had many typical cells in his blood smear. At the end of eight months from the original smear his polymorphonuclear count was sixty percent, with twenty percent of the lymphocytes in the abnormal group.

(c) There were ten patients with epigastric distress which in some instances required differentiation from gallbladder disease; in four patients the age and duration of complaints required consideration of malignancy.

(d) Eleven patients had diarrhea. Of the entire group of fifty-one cases, glands were palpable in fourteen, and the spleen in four instances; acute pharyngitis was present in eleven, nine were febrile when first seen. In ten of the fifty-one patients the diagnosis of infectious mononucleosis had been established before the onset of gastrointestinal symptoms.

4. *Jaundice.*—There were three cases of jaundice. The difficulty of classifying jaundice in infectious mononucleosis is analogous to the same difficulty encountered in late postarsphenamine jaundice. This is illustrated by the following case, which is one of the three referred to.

Case Report

C. P., twenty-one years of age, was seen on June 18, 1943, on account of fever of two weeks' duration. Spleen and glands were palpable, the white blood cell count was 6,000, fifty-eight percent lymphocytes, and many typical cells. X ray of the chest was negative, and agglutination tests for typhoid and undulant fevers were negative. A heterophile antibody test done in two different laboratories a week apart, was in the first laboratory, positive in dilution 1-400, a little lower after adsorption with guinea pig kidney; in the second laboratory, it was positive in dilution 1-448; after adsorption, positive in 1-112. On June 28th there was a severe attack of acute follicular tonsillitis; white blood cell count, 12,400, lymphocytes, fifty-five percent. By September the patient had fully recovered his strength. On Dec. 18, 1943, he had a typical attack of the then prevalent grippe, but it was noticed that he was jaundiced. The liver was barely palpable, the spleen doubtfully palpable. The jaundice lasted three weeks.

5. *Nervous symptoms and miscellaneous conditions.*—In addition to pain already noted in other groups, there were eight afebrile patients who complained of pains and aches, dizziness and others, may occur. The lower age groups without hypertension or cardiovascular disease, who complained of dizziness. There were nine patients with cardiovascular disease whose complaints may have been aggravated by infectious mononucleosis. There was one case of meningitis. Four patients had menorrhagia in whom no abnormal pelvic condition was found.

6. *Grippe.*—Toward the end of 1943 there occurred an epidemic which was semiofficially designated as grippe, although coryza and bronchitis were prominent in the symptomatology. There were fifty-one such cases, and in addition, two cases of atypical pneumonia, and two of pleurisy.

The Nature of the Symptoms in Infectious Mononucleosis

A sufficient number of cases has been observed to demonstrate (a) that the illness may be asymptomatic; (b) that tonsillitis is a secondary or super-added symptom, since the illness may exist for some time before tonsillitis develops; (c) that enlarged superficial or deep glands may exist in the absence of any complication, i.e., there is no tonsillitis, pharyngitis, etc. Thus, fever, enlarged glands and splenic enlargement are primary symptoms, and to this extent justify the term glandular fever. But if splenic enlargement is a *primary* symptom, it is not necessarily a *first* symptom, since the patient may be asymptomatic except for the blood picture and develop other syndromes or complaints weeks or months before palpable splenic enlargement becomes manifest. Fatigue probably also belongs to the primary syndrome. (d) Certain atypical or bizarre symptoms, pain in the head. There were also eight patients in the diagnosis can only be made by means of laboratory tests in such cases. (e) To what extent respiratory and gastrointestinal symptoms are part of the primary illness cannot be said, since there were concurrent grippe and apparently gastroenteritis in the community. (f) Previous chronic illness may be enhanced, or a neurosis excited (symptoms of neurocirculatory asthenia and other neuroses) by infectious mononucleosis.

Conclusions

An epidemic of infectious mononucleosis is reported. The disease may be asymptomatic or atypical and continue so for weeks or months; during this time depression of the polymorphonuclear cells and the appearance of abnormal lymphocytes constitute the easiest clue to the diagnosis. This blood picture was found to continue for the six months in which patients were followed; how much longer it continues in the majority of those affected has not yet been ascertained. Typical symptoms occurred only in the minority of cases. It is shown that the anginal type (tonsillitis) is a complication, since the disease had often been present before sore throat developed. Fever, lymph node and splenic enlargement are *primary* but not necessarily *first* symptoms, fatigue and possibly some of the atypical symptoms are also primary. It is not known to what extent gastrointestinal and respiratory symptoms are primary.

Note: Since this paper was written Randolph and Gibson have reported twenty-four cases of allergic conditions, with typical Downey cells from about ten to twenty percent of the differential smear, and negative heterophile reactions. They argue that the allergic condition, and not infectious mononucleosis, is the cause of the appearance of the Downey cells. According to Warren (reference[1]) the heterophile test is not positive unless the abnormal cells reach considerable proportions. I now have six cases of angina pectoris and/or coronary thrombosis (without grippe or colds) which show the

Downey cells. It might be argued that angina pectoris causes the appearance of cells typical of infectious mononucleosis. (Randolph, T. G. and Gibson, E. B., *Amer. J. Med. Sci.*, 207:638 (May) 1944).

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809 South Sixtieth Street

INFECTIOUS MONONUCLEOSIS

A Summary of the Literature with a Case Report

AARON STOLINSKY

San Francisco, Calif.

Infectious mononucleosis is a disease of unknown etiology, characterized by lymphadenopathy and lymphocytosis with a quite typical blood morphology. It occurs both sporadically and in epidemics; it is most common in children and young adults.

Infectious mononucleosis has been known under different names since 1889, when it was described by E. Pfeiffer as glandular fever. Thirty-four years later, Tidy and Daniel and Downey and McKinlay described the characteristic blood changes and inaugurated the hematological diagnosis of infectious mononucleosis. The blood changes are very helpful in the recognition of the disease, but they are not absolutely pathognomonic.

Etiology

The causative organism is not known. Infection is by contact, but the route is not known. Conveyance from a healthy carrier seems to have occurred. In schools a large proportion of those exposed may be infected. It seems likely that infectious mononucleosis is due to an infection with a virus which is the carrier of heterophilic antigen with a stimulating effect on the lymphocytic and a depressing effect on the granulocytic systems.

Diagnosis

The incubation period is usually between five and ten days, and the onset is usually sudden. The symptoms then closely resemble those of influenza, tonsillitis or pharyngitis. The patient may complain of headache, malaise, cough, sore throat, aching of the bones, and fever. At times there may be abdominal pain simulating appendicitis. The fever may reach 103° to 104°, and associated with a very rapid pulse and slight prostration. Usually, enlargement of the lymph glands occurs early, and within forty-eight hours the patient complains of swelling and tenderness of these glands. They are usually more pronounced posterior to the sternocleidomastoid muscles and occur in chains. As the temperature recedes, the glands eventually disappear. In some cases jaundice and a maculopapular skin rash may be present.

The onset of symptoms varies enough to justify the recognition of various types. These have been described as the glandular fever type, with lymph node enlargement predominant; the anginose or pharyngeal type, with throat symptoms most prominent; the type with prolonged fever of Tidy; abdominal type and thoracic type, probably because of lymph node enlargement in these regions; and a systemic type, in which general symptoms are in the forefront of the clinical picture. Of these the anginose type probably occurs most often and deserves some special description.

In the anginose type there is moderate, diffuse inflammation of the pharynx with simple tonsillitis in which often later there develops a diphtheroid membrane suggestive of Vincent's angina. With this the cervical lymph nodes, particularly those under the upper portion of the sternocleidomastoid muscles and those of the posterior rather than the anterior cervical chains, enlarge; they are discrete, of moderate size, one to two cm. or sometimes larger, moderately tender with but little surrounding edema; rarely they suppurate. The spleen is palpable in about half of the cases but usually only moderately enlarged. With these changes there is malaise, frequent headache, a swinging type of fever, usually not over 101° F., rarely as high as 104° F. The fever may subside and later recrudesce. Prostration almost always is far less than in simple tonsillitis.

Differential Diagnosis

The list of diseases included in the differential diagnostic considerations is very long. In the group with a general febrile onset or reaction, acute leucemia, typhoid, paratyphoid and undulant fevers, tularemia, acute miliary tuberculosis, meningitis, and many other conditions must be excluded; the differentiation from acute leucemia is particularly important. Cases with anginose onset may simulate diphtheria, Vincent's an-

gina, follicular tonsillitis, agranulocytic angina and others. Cases with prominent and persistent glandular enlargement are to be differentiated from nonspecific and tuberculous adenitis, Hodgkin's lymphogranuloma, syphilis, chronic leucemia and neoplastic diseases of the lymphatic system. If mesenteric lymph nodes are involved, acute abdominal conditions, such as appendicitis, are usually thought of at first. The importance of correct recognition of infectious mononucleosis becomes evident by the fact that many of the conditions included in the diagnostic consideration are of serious or even fatal prognosis, while the prognosis of infectious mononucleosis is absolutely favorable. I suspect that many of the cases of infectious mononucleosis are diagnosed as "flu" or "intestinal influenza" or something of that sort.

Laboratory Findings

The most striking features of the blood picture are the characteristic hematological and serological findings. There is a marked increase of lymphocytes and mononuclear cells, that which is called "mononucleosis." The lymphocytes may be as high as ninety to niney-five percent. But it must be borne in mind that in some cases the mononucleosis does not appear at first and that in the initial stage there may be even a considerable predominance of polymorphonuclear leucocytes. Large abnormal lymphocytes with fenestrated nuclei and diffuse chromatin are considered characteristic of infectious mononucleosis.

In view of the variability, not only of the clinical findings but of the blood picture, the discovery by Paul and Bunnell in 1929, that the serums of patients with infectious mononucleosis agglutinate sheep erythrocytes in high dilutions, is often an aid in diagnosis. However, it is well known that the reaction of patients with the disease to this test is not always positive. Negative results have been obtained in typical cases, especially in children.

It seems possible, as Davidsohn has suggested, that infectious mononucleosis should be divided into two types according to the results of the Paul-Bunnell test. However, until the etiological agent of this disease is discovered and the rise of heterophile antibodies is adequately explained, it seems best to classify these cases as instances of infectious mononucleosis in spite of the negative serological findings.

A false positive serological reaction for syphilis may appear in infectious mononucleosis as early as the first week of the disease. It usually reverts to negative some time during the third to the seventh week.

Examination of the biopsy material from the lymph nodes of patients with infectious mononucleosis shows that the hyperplasia of lymphocytes is not as extensive or as uniform as in cases of lymphatic leucemia.

Prognosis

As already stated, the prognosis is absolutely favorable with a tendency to spontaneous recovery.

Course and Treatment

The disease usually lasts about two weeks but there is also variation in this. Some of the milder cases may terminate within a week, and others may last for as long as a month or even longer and run a febrile course ing this time. There is no treatment for infectious mononucleosis that is of specific value and it is symptomatic almost entirely. A great many agents have been used in the treatment of the disease, particularly in recent years since the sulfonamides have been available. Transfusions have been given in some cases and all sorts of medicinal agents have been employed from time to time. It is questionable if any of these are of any service whatsoever. The patient should be treated symptomatically, be placed in bed, but should not necessarily be isolated. One should simply realize that the disease, as already stated, will run its course within one, two or three weeks, that the patient usually will have an uneventful convalescence, and finally will be quite well with no ill effect of a permanent nature.

Report of Author's Case

K., a white male, aged thirty-four, a musician, came to the office complaining of sore throat, fever, loss of appetite and marked sweating of about ten days' duration. His past history was irrelevant and he stated that he had always enjoyed good health. Physical examination revealed a well-built, fairly well nourished young man, and he was obviously not acutely ill. His temperature was 100.5°, pulse rate 82 and respiration 22. Examination by systems revealed the following positive findings: The pharynx was moderately injected, the tonsils had been removed; the anterior and posterior cervical glands were palpable; they were quite discrete, though not very tender; a few glands were palpable in both axillæ; the spleen was just palpable and slightly tender. The skin was moist and the conjunctivæ showed a yellowish tinge. The urinalysis was negative. The examination of the blood revealed the following: hemoglobin 90 percent; red cells 4,640,000; white cells 12,450; lymphocytes 74 percent; neutrophiles 21 percent; monocytes 5 percent; segmented cells 20 percent. The serological test revealed an agglutination for heterophile bodies 1:64. The patient was advised to stay in bed for several days till the acute symptoms and temperature had subsided, and was put on a high caloric and high vitamin diet; treated otherwise symptomatically. Within ten days his temperature and pharynx had returned to normal, the moderate prostration had subsided, the lymph glands were less discrete and much smaller, and the spleen could not be palpated. The blood picture at this time was as follows: White cells, 13,000; lymphocytes, 40 percent; total neutrophiles, 52 percent; monocyctes, 6 percent; juvenile, 1 percent; stabs, 6 percent; segmented cells, 44 percent and eosinophiles, 2 percent. Three weeks later, after he was first seen in the office, his blood picture was nearly normal, and he had no clinical symptoms other than a few small palpable cervical glands. He returned to his regular occupation, having completely recovered with no ill residual conditions.

Summary

1. Infectious mononucleosis is a disease of rather frequent occurrence, but appears often to be unrecognized.

2. The clinical picture, of which the glandular, anginose and febrile types can be distinguished, is unusually varying.

3. The correct diagnosis is based on the characteristic blood changes and the serological test, plus clinical findings.

4. The disease is generally self-limited and the prognosis absolutely favorable.

5. The importance of correct recognition of infectious mononucleosis lies primarily in its differentiation from more serious diseases, such as acute leucemia, typhoid fever, diphtheria and others.

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142 Eighteenth Avenue

THE EARLY DIAGNOSIS OF ACUTE APPENDICITIS IN CHILDREN

A New Sign and Symptom

J. A. GARCIA

Corpus Christi, Texas

It is a recognized fact that the early diagnosis of acute appendicitis in children is extremely difficult. Herzfeld (1) has recently reviewed the difficulties of diagnosis. However, I shall present a report of two cases that came to operation and proved that the ruptured appendix was preceded by an early sign and symptom nowhere described as characteristic of appendicitis. I am convinced that this sign is more frequent than is believed.

I have seen three cases in children in the past seven years in which the pain and tenderness were in the midline and slightly to the left, about midway between the symphysis pubis and the umbilicus. In the first twelve hours the pain was not interpreted correctly. On asking these patients to place a finger on the spot where their pain was, they all pointed to the spot just described. Pressure on the right lower quadrant did not elicit pain response any more than pressure either on the lower left quadrant, at the suprapubic region, or at any other part of the abdomen.

The one consistent thing that the patients said was that their pain was in the midline midway between the symphysis pubis and the umbilicus. Pain never became localized or referred to the right lower quadrant, but progressed from pain in this described region to the pain of a generalized peritonitis. Operation revealed ruptured appendix with peritonitis. The appendix was found at the usual location on operation. Subsequently, having this sign of appendicitis in mind, other cases of acute appendicitis that have come to operation have not revealed that this sign is to be found in a pelvic appendix only, but in any anatomical location.

Report Of Cases

Case I—B.C., a male child, aged three and a half years, very healthy; previously in perfect health. He was old enough to talk intelligently. He became suddenly ill September 5, 1940, about five o'clock in the afternoon, and was seen about eight o'clock the same day. At this time the patient complained of slight pain in the midline halfway between the symphysis pubis and the umbilicus. Pressure with the hand elicited tenderness, only slightly more in the midline at this point than at any other point. Pressure tenderness at McBurney's point was not more pronounced and even less than all over the abdomen. The temperature and pulse were normal, there was no vomiting, only slight nausea, and the urine was negative. A diagnosis of gastrointestinal food upset was made.

Twelve hours later the patient's temperature was 100.5° F., pulse 110. He still complained of pain at the point just mentioned, halfway between the symphysis and the umbilicus. At no time was there pain at McBurney's point. Tenderness on pressure was about the same as twelve hours earlier, and was equally distributed all over the abdomen. There was no rigidity. Twenty-four hourse after the onset of the disease, signs and symptoms of generalized peritonitis were present. Laparotomy revealed a ruptured appendix with generalized peritonitis. The appendix was in the usual anatomical position. Thirty-six hours later the patient went into extremis and succumbed.

Case II.—B.G., white female child, aged ten, became ill in the afternoon of July 1, 1942. I saw her six hours later, when the chief complaint was pain halfway between symphysis and umbilicus in the midline. On pressure, tenderness was slight all over the abdomen. Temperature was 99.0° F.; pulse 90; urinalysis negative; slight leucocytosis. There was no definite localization of pain on pressure tenderness in any area; nausea was slight.

Twenty-four hours later the condition was practically unchanged. Pressure tenderness was about the same as before and not limited to any definite area. There was no rigidity. Forty-eight hours after onset of pain, the patient showed signs of generalized peritonitis. Laparotomy revealed a ruptured appendix with nonlocalizing generalized peritonitis. The appendix was located anatomically at the usual McBur-

ney's position. Twenty-four hours later the patient succumbed.

Comments and Summary

Besides these two fatal cases I have observed another that ended fatally. Of course, since seeing these three cases I have operated successfully on children in at least four cases. I do not know how often the sign occurs in children; I believe it is fairly frequent, but goes unrecognized until too late. It is unfortunate that in the examination and history taking of children it is so difficult to evaluate the sign properly. In my operative cases this sign is not characteristic of a pelvic appendix, but is found in any type of appendix. There is pressure tenderness at McBurney's point in some cases but it is of equal or less intensity than tenderness at the midline in the infraumbilical region. The pressure tenderness at McBurney's point is less than the even tenderness to the left of the midline. A review of recent literature by Hoemer (2) does not mention this sign.

Thus, when a child becomes suddenly ill but not acutely so and complains of pain in the midline halfway between the umbilicus and the symphysis pubis with no diarrhea, little or no temperature, and a fairly normal pulse; with pressure tenderness at the point just mentioned, or tenderness all over the abdomen and a negative urine, acute appendicitis must be strongly suspected and an exploratory laparotomy is justifiable not later than eighteen hours after the onset of the disease.

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MEDICAL PROFESSIONAL BUILDING

BRONCHIAL ASTHMA DUE TO SENSITIVITY TO ASPIDISTRA

ALEXANDER STERLING and BEA STERLING HOLLANDER
Philadelphia, Pa.

We present herewith the report of a case of bronchial asthma, the first on record, which proved to be due to an aspidistra plant and hyperhumas fertilizer, either singly or combined. Hyperhumas has been described as the domestic peat humas; rich, black, moist, earthy mold, thoroughly composted from raw reed and sedge peat and green cover crop. The patient suffered from severe attacks of bronchial asthma while handling the aspidistra plant, and made a spectacular recovery when it was removed from her environment.

Report of Case

The patient, Mrs. A. M., aged fifty-five, white, called on March 17, 1943, with a history of severe attacks of bronchial asthma, which had occurred off and on since 1929. The last severe paroxysm began on May 19, 1942, and had continued for ten months, when she called for treatment.

In 1925 she had a severe attack of bronchitis, with high fever, frequent coughing spells, and difficult expectoration, which lasted for two months.

Her attacks were the same winter and summer, but she was usually worse in the months of March and April. The patient had no nasal obstruction, and had never suffered from sore throat. There was no other personal or family allergy. In June 1942, she had a gallbladder attack but could not be operated upon because of her bronchial asthma.

On physical examination the patient was found to be fairly well-nourished, weighing 160 pounds. She was extremely dyspneic and cyanotic; temperature was normal, pulse 120, and blood pressure 130/80. Some visible infection of mucous membranes of the nose and throat was noted. The lungs showed the usual findings of wheezing and moist râles throughout, with slight cardiac enlargement to the left, and poor muscle tone.

Laboratory tests which were done included blood count, differential, urine analysis, blood sugar, blood calcium, blood phosphorus and blood Wassermann, and all were found to be within normal limits.

Allergic studies were made. The patient was tested for inhalants, animal epidermals, foods, and various bacterial proteins of the respiratory system, all of which were negative. However, she reacted (+2) to the following molds which are found in soil: Helminthosporium, Rhizopus, Aspergillus flavus, and Aspergillus nidulans.

An investigation of her home environment disclosed that she had a great number of plants throughout the house, especially in her bedroom. Because of her positive reaction to molds she was asked to remove the plants. A remarkable improvement followed. The patient was free from attacks of bronchial asthma and slept well. The aggravation of her symptoms during the months of March and April was obviously due to the fact that she reset the various plants at that time. After a two week period of good health the patient had a severe attack of asthma, lasting for several hours. She confessed that it followed the handling of an aspidistra plant, which she considered especially valuable and was wrapping to give away.

Comment

The question arose whether the patient was sensitive to the aspidistra plant itself, or to the soil of the plant, which she had doctored with hyperhumas. Extracts were made from the leaves of the plant, and from the soil of the plant which contained hyperhumas fertilizer. Extensive reactions were obtained to both. On passive transfer a doubtful reaction was obtained to the extract from the hyperhumas and no reaction to the extract from the leaves of the aspidistra plant. However, treatment was continued with both extracts three times a week.

Since that time the patient has been perfectly free from the attacks of bronchial asthma. The associated purulent bronchitis and the secondary myocardial involvement have also improved.

1737 CHESTNUT STREET

Editorials

Postwar Health

Practically every person in the world has been affected by the present war. Many have been killed; many have been wounded, but all have been affected mentally or emotionally. In this war, as in other wars, we encounter all types of reactions, from the noblest to the basest. We hear of great acts of heroism and self-sacrifice and we learn of actions from the lowest treachery where lives are sacrificed to the petty black market operators. The reports tell of deeds of utmost bestiality in the nature of reprisals and slaughter by the Germans and Japanese that seem to surpass those recorded among the lowest primitive tribes in extremely ancient days.

And we are gravely concerned with what will happen when the war is ended. We have considered the spread of tropical diseases brought here by our troops from the jungles and we should prepare not only to treat the returning men and women who are stricken with various tropical ailments, which we are not accustomed to treat, but also to take measures to prevent their spread. What is of greatest concern at the moment is the health of the peoples in war battered countries after the war. In spite of the great destruction of cities and utilities and the probable shortages of proper foods in various districts, we feel that with our present day knowledge and facilities, we shall be able to prevent fairly well widespread epidemics and provide sufficient foodstuffs for the peoples in despoiled countries.

Our chief concern is the mental and emotional state of the peoples in various countries among the victors but chiefly among the vanquished. During the last great famine in Russia, homeless children became brigands and bad citizens of the very worst type, with a complete indifference to the social structure. It took many years to rehabilitate these young people. It is hard to visualize just what we shall be facing among the peoples of the ravaged areas in Europe and Asia when the relative quiet of peace replaces the angry terror of war.

How many distorted minds, what types of psychoneurotics will be found, how much active and latent hatred and fear and despair, and what effect these will have on the rebuilding and reconstructing, is difficult to picture. We are prone to think that the evils of war confine themselves to the battlefields and battered cities, but we are of the firm belief that this war will bring in its wake for many years a set of distorted evils greater than those we see in its active phases. There have been many plans made and many conferences held on the feeding of peoples, on the adjustment of monetary and trade problems. These are important and if properly carried out will in a measure lessen the psychological and mental results that are bound to occur, but we wonder if we should not seriously contemplate a careful consideration of preventive and remedial measures for the postwar traumatic effects on mental and emotional states.

Rejectees

Although Congress was not in session during July certain committees were still in Washington. One of these was a Subcommittee on Wartime Health and Education, presided over by Senator Pepper of Florida. Among the witnesses were Colonel Rowntree and General Hershey. Dr. Rowntree, a physician, and Chief of the Selective Service Bureau in its Washington office, said that "the Selective Service Physical Examiners expected to find a rough, virile manhood, but found American youth soft and flabby". The situation is "appalling". He places the blame on all of us, that is, on "society", and mentions Federal and State agencies, doctors, dentists, parents, and churches. He is probably right. National Health is a national problem and concerns every one. General Hershey thought it a pity that older men must be called to service when so many younger men were deficient.

Mr. Paul V. McNutt, who can always be counted upon to be vigorous in his thought and language in any case, dwelt upon venereal diseases chiefly. He thinks venery is less prevalent than in other wars, but agrees that it ought to be stamped out; he says it "can and should be". One wonders whether he or his associates have ever tried to find the contacts from which a given soldier may have acquired his disease. Admiral McIntire stressed the value of Navy and Army records in laying down any program for health improvement. He urged careful, periodical physical examinations in the schools and suggested Government clinics for diagnosis, etc., to work with doctors in communities.

In the July issue of *Readers Digest*, the late Frank Knox, who died in office while Secretary of the Navy, published a "farewell" to the American people, entitled "Let's Train Our Youth Now". While this article was a plea for universal or national military service, it is tied in with the national health problem. Fifty percent of the men rejected were in mental ill health, and for the first twenty-one months of this war, the Navy dropped fourteen thousand out of fifty-six thousand for this cause. Other causes were: bad eyes, one in twelve; teeth, one in twenty; heart disorders, one in thirty-three; ear, nose, and throat diseases, one in fifty; the socalled motor system, covering rheumatism, bursitis, osteomyelitis, etc., showed one in fifty defective. Mr. Knox thought the "cause of these defects is misdirected, aimless youth under a highly competitive system of civilization". He said that twenty-nine out of every one

hundred were below Navy standards of general health, and believed that under a system of universal training for military duty, with, of course, previous searching physical examination, these defects could be overcome in early youth.

Commenting on all this the *New York Times* says, editorially, that although medical care is our first consideration, along with it must go problems of malnutrition, bad housing, overcrowding, the nervous tension engendered by a strenuous industrial life, and indifference to sex education and to the facts about venereal and other preventable diseases. The *Times* seems to see in all this an opening argument for socialized medicine or something similar. We need, the editor thinks, the help of sociologists, economists, actuaries, and public health authorities. "Until we have this interpretation, we cannot hope to solve a problem which involves more than medicine."

Physicians can be quite sure that organized medicine cannot be held responsible for the causes of juvenile ill health. For years our profession has been doing all that it can to educate the public in matters medical, and has given unselfishly of its time and substance for human betterment, but the problem is too vast in scope and the difficulties of reaching every individual are too great. Such governmental health agencies as we have, notably the Public Health Service, are doing excellent work, but they too are submerged by the vastness of the overall avalanche of human ills which beset mankind. The combined agencies have made a good beginning, but hardly more than just that.

Goutiness

The evidence in favor of gout being hereditary is quite convincing. Llewellyn, an authority, in his book on rheumatism and gout contends that the live link in gouty as in asthmatic heredity consists in the transmission of a tendency to protein sensitization; further, that the evil effect of malt liquors and wines is not due to the alcohol content, but to the proteins in beer, hordein or yeast proteins, and in wines to the proteins in the grape "must" or such well established antigens as white of egg, casein and skimmed milk, added in the process of fining. Acute articular gout, which killed Emperor Charles V, the Earl of Chatham, and many other great men in the days when gross eating and especially hard drinking were the vogue, is to all intents and purposes extinct. Subacute gout in its various forms is much more rare than in days gone by, but goutiness is sufficiently common, and is probably more frequent in some countries, in Britain in particular, than is generally supposed.

In the opinion of most authorities, gout is due to insufficient or perverted metabolism leading either to the formation of material which is foreign to the healthy economy or to the inadequate discharge of normal e creta, added to an inherited susceptibility to the di ease. Goutiness, in its protean forms, may be plac in the same category, with reservations. In any even gouty symptoms are infrequent before middle age, a though the Earl of Chatham suffered from gout when boy at school.

The manifestations of goutiness are many and varie It seems that there is something circulating in the blo which, trying to get out, projects itself, in a manner speaking, upon an organ or tissue, and that the for which this manifestation will assume, depends upo the organ or tissue selected. It may approach a joi and cause a chronic gouty arthritis; it may attac nerves and bring about a gouty neuritis; it may laun itself upon the skin, with gouty eczema or psoriasis a result; the air passages may suffer from the intrusio of this poison, hence, pharyngitis, laryngitis, bronchit or asthma; the stomach may be its victim and cau dyspepsia. The brain may be selected and give rise irritability, possibly the most common symptom goutiness, somnolence and a disinclination for work, symptom, by the way, which is not rare among tho who are not gouty. It may provoke a cystitis or even urethritis. According to the late Dr. Leonard William in his little book *Minor Maladies and Their Treatmen* there is no part of the body which can be said to b free from the possibility of being attacked by the gou poison, and fortunate indeed is he who being obliged suffer from manifestations of the diathesis in any situa tion suffers them in some painful and easily recogni able shape, rather than in the painless, insidious b far more inexorable forms of arteriosclerosis and ki ney disease.

The main cause of gout, or the exciting cause in person with an inherited susceptibility, is lack of ba ance between intake and output. The intake may b too great or the output too small, or perhaps both fa tors are in operation. Women are apt to suffer from i regular gout in the form of headache, neuralgia ar bronchitis, and after the menopause. As classical go is believed generally to be hereditary it seems probabl that the tendency to goutiness is inborn. On the oth hand, although such a tendency may be present many, it is likely that this predisposition as the pr mary cause in the diseases referred to above has bee exaggerated. It may be a factor in the causation some and the main cause in other diseases and co plaints.

Circumstances militate against a widespread prev lence of gout in the United States, yet there are syn toms which are indicative of goutiness. At any rat whether or not goutiness exists to any considerable e tent, by careful diet and circumspect living general gout and its allied complaints can be avoided.

News Items

Institute of Clinical Oral Pathology.—The New York Institute of Clinical Oral Pathology, Inc., announces that its first open meeting will be held in Hosack Hall, Academy of Medicine, Monday evening, October 30th. According to the preliminary announcement, outstanding investigators will participate in a symposium on "Fluorine and Dental Caries". Members of the medical, dental, public health, and other professional groups are cordially invited. Details of the coming meeting will be announced later.

American College of Chest Physicians.—At the annual meeting of the American College of Chest Physicians, held in Chicago, June 10th to 12th, Dr. Charles M. Hendricks, El Paso, Tex., was chosen president-elect, and other officers were elected as follows: Dr. Richard H. Overholt, Brookline, Mass., and Brigadier General Shelley U. Marietta, M.C., vice-presidents; Dr. Paul H. Holinger, Chicago, secretary-treasurer.

Leslie Dana Medal.—Miss Linda Neville, founder of the Kentucky Society for the Prevention of Blindness, has been awarded the Leslie Dana Gold Medal for 1944. This medal is awarded annually for achievements in the prevention of blindness and the conservation of vision. Miss Neville has been engaged in activities to aid the blind for more than forty years. The award was given on the recommendation of the Association for Research in Ophthalmology.

Discussion of Plastic and Reconstructive Surgery.—A stated meeting of the American Otorhinologic Society for the Advancement of Plastic and Reconstructive Surgery was held in New York on Thursday, June 8th, under the presidency of Dr. Romeo Luongo, of Philadelphia. Papers on various aspects of surgery of the septum were presented by Dr. Matthew S. Ersner, Dr. E. Markey Pullen, Dr. Nathan A. Bolotow, Dr. Frank Turchik, Dr. Albert A. Cinelli, and Dr. E. Leo Buerger, and were discussed by Dr. Robert F. Ridpath and Dr. Francis W. White.

Rehabilitation Program at Levi Memorial Hospital.—The Leo N. Levi Memorial Hospital of Hot Springs National Park, Ark., has made available to the Medical College of Richmond, Va., its research facilities and scientific findings, to aid in the rehabilitation of servicemen under the Baruch Program for Physical Medicine. This hospital which is national, free and nonsectarian, specializes in the care of victims of arthritis and rheumatism, and has been functioning for thirty years.

American Geriatrics Society.—At the second annual meeting of the American Geriatrics Society, held in New York last June, Dr. Wingate M. Johnson, Winston-Salem, N.C., was elected president and other officers were elected as follows: First vice-president, Dr. Walter E. Vest, Huntington, W.Va.; second vice-president, Dr. Edward B. Allen, White Plains, N.Y.; secretary, Dr. Malford W. Thewlis, Wakefield, R.I.; treasurer, Dr. Richard J. Kraemer, Wickford, R.I.; executive committee, Dr. Johnson and Dr. Allen; membership committee, Dr. Carl A. Williams, chairman; program committee, Dr. Edward B. Allen, chairman. Dr. I. L. Nascher is honorary president and Lt. Col. J. W. Shuman is an honorary member.

Florida Medical Association.—At the recent annual meeting of the Florida Medical Association, Dr. Shaler Richardson, of Jacksonville, was named president-elect, and Dr. John R. Boling, of Tampa, was inducted into the presidency. Dr. Whitman C. McConnel, of St. Petersburg, Dr. Horace A. Day, of Orlando, and Dr. Robert D. Ferguson, of Ocala, were elected vice-presidents. Dr. Robert B. McIver, of Jacksonville, was elected secretary-treasurer, and Dr. Steward G. Thompson, of Jacksonville, managing director.

Long Island College of Medicine Appointments.—Dr. William Dock, professor of medicine at the University of Southern California, has been appointed professor of medicine at Long Island College of Medicine, Brooklyn, N.Y. Other additions to the staff of this institution, according to *Science*, are: Dr. Edward Muntwyler, professor of experimental biochemistry at Western Reserve University, appointed professor of chemistry and executive officer of the department; Dr. James B. Hamilton, associate professor of anatomy at the University of Missouri, appointed professor of anatomy and director of the department; Dr. Fred L. More, director of the Division of Public Health Studies of the Commonwealth Fund, appointed to the newly established professorship of social and environmental medicine, in the department of preventive medicine and community health.

Medical Education Bureau Established at the Academy.—The New York Academy of Medicine has established a Bureau of Medical Education, the purpose of which is to serve all physicians interested in furthering their medical education, particularly physicians returning from the war and the increasing numbers of foreign physicians who come to New York for postgraduate work. The Bureau was organized by and will be operated under the supervision of the Committee of Medical Education of the New York Academy of Medicine, and will render its services free of charge. Announcements of the postgraduate medical courses which will be conducted by the universities and the hospitals of New York City will be published later. Thirty-three of the leading hospitals have been invited to collaborate in this work and a group of advisers representing the special fields of medical practice has been appointed to supervise its work.

Mississippi Valley Medical Society.—The tenth annual meeting of the Mississippi Valley Medical Society, the Tri-State Postgraduate Assembly of Illinois, Missouri and Iowa, will be held in Peoria, Ill., September 27th and 28th, with headquarters at the Pere Marquette Hotel. There will be morning, afternoon and evening sessions, with over twenty addresses, clinical presentations, etc., and an interesting scientific and technical exhibition. Wednesday, September 27th, an all-Chicago program will be presented, and on Thursday, September 28th, an all-St. Louis program, which will include a round table discussion of hypertension. The entire program will be practical, and will feature bedside medicine. All ethical physicians are invited to attend, and medical officers of the army and navy are cordially invited to be guests of the society. Complete programs of the forthcoming meeting may be obtained from the secretary, Dr. Harold Sawnberg, 209-224 W.C.U. Building, Quincy, Ill. Dr. C. Paul White, Kewanee, Ill., is president of the society.

State Health Officers Association.—At the annual meeting of the New York State Health Officers Association held at Saratoga Springs, June 27th and 28th, the following officers were elected to serve for the ensuing year: President, Dr. John R. MacElroy, Jonesville; first vice-president, Dr. George E. Sanders, Greece; second vice-president, Dr. Burdge P. MacLean, Huntington; third vice-president, Dr. Robert Broad, Ithaca; secretary, Dr. Russell H. Wilcox, Tonawanda, and treasurer, Dr. H. Burton Doust, Syracuse.

British Scientists Honored.—The King of England's birthday honors list includes the Order of Merit conferred on Sir Henry Dale, president of the Royal Society; knighthood conferred on Dr. Alexander Fleming, professor of bacteriology at the University of London, and Dr. H. W. Florey, professor of pathology at the University of Oxford, in recognition of their work on penicillin, and on Dr. Percival Hartlet, director of Biological Standards of the British National Institute for Medical Research.—*Science,* July 21, 1944.

Poliomyelitis in North Carolina.—State and local health authorities in North Carolina are meeting the current epidemic of poliomyelitis promptly and effectively, according to a report of the interstate quarantine officials of the U.S. Public Health Service. The focus of the outbreak is in the west-central section of the State. An emergency hospital was set up, and virtually all polio sufferers have been hospitalized. A number of respirators have been obtained, and fifty additional nurses have been brought in from other areas. Funds of the National Foundation for Infantile Paralysis are being used to help meet the emergency. During 1944 only seven cases were reported up to June 3d. Between that date and July 8th, 239 cases occurred, and new cases are being reported at a rate of ten or more a day. Victims of the disease, for the most part, are children.

Research Fellowships Awarded.—Three of four fellowships entrusted to the committee on medical education of the New York Academy of Medicine have been awarded. The fellowships, which were provided by Charles Mayer of New York, consist of $2,000 each. They went to Dr. Harry Goldblatt, associate director of the Institute of Pathology, Western Reserve University School of Medicine, Cleveland, and Philip Handler, Ph.D., associate in physiology and nutrition, Duke University School of Medicine, Durham, N.C., for work on "use of choline and other lipotropic factors in the prevention and treatment of fatty infiltration of the liver and hepatic insufficiency". Dr. Richard Lewisohn, cancer research laboratory of the Mount Sinai Hospital, New York, was granted a fellowship for work on "action of ingested choline, lecithin, methionine and inositol on precancerous lesions and disorders associated with neoplastic diseases". John R. Murlin, Sc.D., professor of physiology, University of Rochester, N.Y., received a fellowship for research on "effects of riboflavin, certain amino acids, and casein on the development and growth of cancer". No satisfactory application was received for the fourth fellowship, for a study "of the relationship between precancerous lesions of the mouth, hepatic insufficiency and gastrointentinal disorders", and no award was made.

Cadet Nursing Corps Exceeds Quota.—Surgeon General Thomas Parran, U.S. Public Heal Service, announces that the first year recruitme quota of the U.S. Cadet Nurse Corps of sixty-fi thousand new student nurses has been exceeded more than five hundred. It has a total membersh of more than one hundred thousand, said Dr. Parr Besides new student nurses, the group includes se ond and third year students who transferred to t Corps during its first year. These young women, said, are pledged to remain in essential nursing the duration, and may choose either civilian or mi tary nursing. The two year recruitment quota, Ju 1943 to July 1945 is 125,000 new student nurses. I Parran paid a high tribute to the various cooperati groups which played a vital rôle in the success of t Cadet Nursing Corps.

Personal.—Mr. Basil O'Connor, president of t National Foundation for Infantile Paralysis, has be appointed chairman of the American Red Cross to su ceed the late Norman H. Davis.

Dr. John J. Moorhead, for thirty-six years medi director of the Interborough Rapid Transit Syste retired on August 1st, as medical director of the N York Transit System.

Dr. Alexis F. Hartmann, professor of pediatrics, Louis University School of Medicine, delivered t Ernst A. Sommer Memorial Lectures in Portland, Or June 15th to 17th.

Dr. William Walter Greulich, professor of physi anthropology and anatomy at the Western Reser University School of Medicine since 1940, has be appointed professor of anatomy at Stanford Universi

Dr. Geza de Takats, associate professor of surge University of Illinois College of Medicine, Chica delivered the fifth Samuel D. Gross Lecture at t University of Louisville School of Medicine on M 25th, his subject being "The Causalgic State in Pe and War".

Dr. Edward P. Thomas, Frederick, Md., has be elected president of the Board of Medical Examin of Maryland.

Dr. Arthur P. Richardson, professor and head the department of pharmacology, University of Te nessee College of Medicine, Memphis, Tenn., has be appointed head of the division of pharmacology the Squibb Institute for Medical Research, succeedi Dr. Harry B. Van Dyke who has accepted an a pointment as head of the department of pharmacolo at Columbia University College of Physicians a Surgeons.

Dr. Charles Halliley Kellaway, F.R.S., director the Walter and Eliza Hall Institute of Research Pathology and Medicine, Royal Melbourne Hospit Melbourne, Australia, has been appointed director the Wellcome Foundation Research Laboratories England and the United States, with headquarters England.

Captain Philip K. Gilman was chosen preside elect of the California Medical Association at t annual meeting held last May. Dr. Lowell S. G was installed as president.

Dr. C. C. Cody, Houston, was elected preside elect of the State Medical Association of Texas at t recent annual meeting and, Dr. H. F. Connally, Wac was installed as president to succeed Dr. C. S. Vena

Medicolegal Conference and Seminar

I. **Conference.**—The Massachusetts Medicolegal Society in conjunction with the medicolegal departments of Harvard, Boston University and Tufts Medical Schools has arranged for an all-day Conference to be held at the Mallory Institute of Pathology, Boston City Hospital on Wednesday, October 4, 1944. It will include lectures, demonstrations, and informal discussions concerning many subjects in legal medicine, particularly stressing some of the more recent procedures. This meeting will be open to any registered physician, lawyer, police official, senior medical student or other medical investigator who may be interested and care to register. No limit in number has been made. There will be no fee for registration. While advance application is not essential, it would be helpful to those arranging the conference if notice of intention to attend be sent prior to October 1st to Dr. W. H. Watters, Department of Legal Medicine, Harvard Medical School, Boston.

II. **Seminar.**—The Harvard Medical School, Courses for Graduates, with the cooperation of the Medical Schools of Boston University and Tufts College offers a seminar in Legal Medicine to occupy the entire week of October 2d to 7th, inclusive. It is planned particularly for medical examiners and coroners physicians, but will be open to any other suitable graduate of an approved medical school.

The course will be practical rather than theoretical and will consist of autopsy demonstrations, technique and interpretation of laboratory tests, study of the day-by-day cases of a medical examiner, round table conferences, and the many subjects now included in the widening field of legal medicine. In order that each participant may receive the maximum benefit, the enrollment has been limited to fifteen. For the Seminar the fee is $25. Application should be made on or before October 1st to Harvard Medical School, Courses for Graduates, 25 Shattuck Street, Boston 15, Mass.

Cell Respiration and the Cause of Cancer

(Continued from page 476)

between the latter and the former factors being that viruses stick to the surfaces once they have taken possession of them, whereas dyes, as well as narcotics, in reversible concentrations are eventually disposed of, and thus display their effect only as long as they are present in the cells. As events show, no permanent damage has been done in either case.

The fundamental difference in the way in which viruses act constitutes (apart from their specific properties) the fundamental difference in their relationship to tumors. The provocative carcinogens act by way of inflammation. Tumor formation is a side effect, remote in space and time, and as such dependent on the presence of favorable factors at that space and during the time of evolution and on the absence of unfavorable factors. Hygiene and therapy of inflammations have to watch for these factors. The disastrous trend leading to cancer may be checked or reversed at any time by intercurrent inflammation or degeneration in the prospective tumor cells. Hormones in their special field require severe prolonged work of the gland and relative powerlessness of the reaction (the increased blood flow) to cope with the excess breakdown. The experiments are of great theoretical interest as they show what happens when decomposition becomes the independent variable, when this element takes over temporarily the government and brings disorder in orderly respiration, otherwise controlled by hydrostatic pressure, in an organ not destined, as muscles are, for severe work. Closest to the viruses in its way of action comes chronic irritation (if not associated or a part of inflammation), but the affected cells have to work their way up to become tumor cells and, thus, differ immensely in the tempo of their career from the cells affected by viruses. These alone enter directly into the place of their work, become immediately settled being adsorbed and they start instantaneously and straightforwardly their work, which in more or less rapid course, with or without the help of contributing factors acting in the same direction, is bound to lead to tumor formation. "They act directly, making cells become tumor cells, increase as the tumors grow, furnish the potentialities for tumor formation, have effects proportionate to size of the inoculum, they cause and actuate tumors (38)."

The combination of the virus and the carcinogen types of action is represented in Fischer's experiments in which Scharlach R or Sudan in oil was applied. Further analogies are furnished by P. R. White's experiments on plants, recently communicated.

According to my conception of the dynamics of respiration, growth has but one immediate cause: growing mechanical energy; it is the growth of hydrostatic pressure in normal growth, of osmotic pressure in cancer. Immature cells, unfertilized ova and "dormant" seed embryos, both true representatives of primitive and relative anaerobic respiration, mature normally into aerobes (marked as apart from anaerobes by a higher rate and variability of acceleration of oxidations, effected by the action of an elastic membrane), develop and evolve but may become again anaerobes by a revolutionary act, which has a retrogressive and re-metamorphosing effect, manifest in anaplasia. The cause of this and all the other manifest effects is loss of membrane function, that elastic membrane the formation of which starts life, the actual absence of which characterizes all primitive life, that intermediary between non-living and living matter.

It cannot be expected that energies of any kind strong enough to destroy cells are the ideal means of cure. The danger lies not only in the low concentrations of the curative agent (which are inevitable because it is the tendency of every free energy to decrease and to dissipate), but also, to a higher degree in the low concentrations of the continuing effect, the decomposition products of the more or less damaged, i.e., degenerating, cells in the area adjoining the area of application, which leaking out may give rise to a new malignant wave.

To withdraw, not to add energy, and to destroy (neutralize) the wave, not the cells, is the ideal aim.

Conclusion

I hope that the urgent need for a comprehensive explanation of respiration, normal and abnormal growth, the vast range of applicability of my hypothesis of respiration (due to the fact that respiration is the ulti-

mate source of all life activities), its ability to explain precisely that which is as yet unexplainable, the unexpected (surplus or deficit), the paradox, and the possibility of its future direct verification (if colloid-chemistry will provide methods to seize the subtle factor, the supposed oxygen globules) will secure its consideration. I further hope that notwithstanding the shortcomings of this representation the amount of adduced evidence and its power may be convincing enough to justify the undertaking of experiments to test my hypothesis:

1. As the experiments I used as evidence were undertaken from a different point of view, study of the influence of exogenous, physical and chemical factors on respiration and growth with special regard to their influence on the colloidal condition of the plasma membrane, its elasticity, viscosity and permeability, on hydrostatic pressure, on content of the cell in lipoids and proteins is necessary.

2. As the influence of these agents on the unseizable factor cannot be demonstrated at present, experiments have to be planned and carried out on the basis of this assumption and the conclusions, based on it, compared with the actually observed results.

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815 EAST FOURTEENTH STREET.

PHYSICIANS' LETTERS

SOLOMON R. KAGAN
Roxbury, Mass

Physicians have contributed excellent work not only to medical literature, but also to literature in general. Many literary works, written by physicians, are among the classics of the world's literature. Among these remarkable productions letters occupy an honorable place.

I have in my possession a great number of unpublished letters written by outstanding American and European physicians, many of which contain data of medicohistorical importance. Many letters written by physicians appear in my books, *Life and Letters of Fielding H. Garrison* and *Leaders of Medicine*, and also in the *Bulletin of the History of Medicine* and the MEDICAL RECORD.

I am publishing now, for the first time, nine letters of the late Professor William S. Halsted addressed to Colonel Fielding H. Garrison. These letters are characteristic of the man.

Letters from Dr. William S. Halsted to Dr. Fielding H. Garrison

Baltimore, October 16, 1

Dear Dr. Garrison:

On my return to town about two weeks ago I was greatly pleased to find in my mail a copy of the second edition of your *History of Medicine*. I am mortified at not having thanked you immediately. You will have understood, I hope, that I have been greatly handicapped this autumn by the absence of many assistants—nine of my staff are in France.

You have immortalized me to a degree which I should not have thought possible. It was fortunate that I had two copies of the *History* in my North Carolina house for I spent many pleasant hours reading one, while some of my surgical friends perused the other.

Thank you also very much for the Biographical memoir of Dr. Z. which arrived yesterday. Your *Life of John S. Billings* has been one of my favorite Xmas greetings. I tried once to book a contribution for our Hospital with a copy sent to a wealthy namesake or rather a friend with the Billings patronymic. A few months later this friend made a large gift to another medical school. I like to fancy that he was persuaded by your eloquence.

With renewed thanks,
I am very sincerely yours,
W. S. Halsted

* * *

1201 Eutaw Place
Baltimore, April 13, 19

Dear Dr. Garrison:

It occurred to me after leaving the Library yesterday that you might consider my invitation to the North Carolina mountains as a perfunctory one. It was not, and I assure you it would give Mrs. Halsted and me very great pleasure to have you spend your vacation with us at High Hampton, Cashiers Valley, North Carolina. We can offer you an ideal climate, lovely country, driving and horseback riding and fine trout fishing.

Thanks for your exceeding courtesy; they were delightful hours that I spent at the Library on Saturday.

Very sincerely yours,
W. S. Halsted

P.S. I shall be in the mountains during August and September. I would suggest the latter part of August and the first twenty days of September as the pleasantest time to come.
W. S. H

May 21, 1917

Dear Doctor Garrison:

I have written to Dr. Winford Smith and Dr. Finney, who ave in charge the organization of the Hospital Unit, and I m sure they will earnestly try to make a place for you.

Dr. Jim Mitchell, of Washington, is making every possible ffort to be included in our unit, but I understand that all ositions were filled long ago. I shall see Finney and Smith ersonally and plead your cause, hoping that a vacancy of ome kind may occur, and knowing that you care little for he title and a great deal for the opportunity to be of service.

If they do not succeed in making a place for you I shall eel that they are very shortsighted and lacking in fertility. Really a place must be made for you even if murder has to be ommitted.

Very sincerely yours,
W. S. Halsted

* * *

Baltimore, June 11, 1917

Dear Dr. Garrison:

You are really too kind. I shall have to be very wary of sking you to employ someone to do me a favor. Possibly I ave told you this before apropos of one of the many kind- esses you have shown me.

I have a photagraph of a large goiter over the mamma. In Alibert's time these huge goiters escaped the surgeon, but hey could hardly evade him in these days, that the goiters o longer have a chance to grow to such proportions.

I thank you very much for the reference to Alibert's *Vosologie Naturalle* and for the quotation from his chapter n "Thyreopraxia." Monkey-shines of the thyroid would be he translation of thyreopraxia, I fancy.

What a nuisance I must be to Col. McCullogh also. Dr. Welch's ethnological studies have convinced him that the Germans necessarily are barbarians. I find it very hard to llustrate my paper with portraits of the Germans. Possibly shall have to discard them.

Very sincerely yours,
W. S. Halsted

* * *

Baltimore, October 29, 1917

Dear Dr. Garrison:

It seems absurd for me to apologize for delay in replying o your last letter on the score that I am busy, whereas you, vith all your duties, can always find time to reply to my etters so promptly.

It would give me great pleasure to see you and Dr. Stock- man and to have you take tea with me some Sunday after- oon. Could you not arrange to attend with some of your riends one of our Pathological Conferences conducted at :30 on Monday afternoons by Dr. Welch, assisted by Dr. MacCallum and staff? These conferences are very interesting o us. Then after the conference we could all dine together t the Maryland Club.

It would be delightful to have Doctors Roy and Nichols ccupy an evening with their papers. The president of the Historical Society has not yet been elected for the coming ear. I shall keep you advised.

Hoping you are in good health and not working too hard, am,

Very sincerely yours,
W. S. Halsted

* * *

Baltimore, November 20, 1920

Dear Garrison:

Please believe that I am truly sensible of the great per- onal obligation under which you are placing me by your nterest and exertions in behalf of our library. As you know o well, I am quite ignorant of the ongoings in the book world nd greatly in need of a restraining hand.

My apparent willingness to buy a pig in a poke may in part e explained by eagerness to embrace the opportunity to olicit subscriptions, and thus keep alive or reawaken the nterest of our Board of Trustees in the library and in the lan for a suitable building. I shall pelt my pillets at them nd keep your letters in reserve as heavy ammunition. To ave Professor Sudhof as an ally is a great asset, and it was ost kind of you to write him. The many questions I should ke to ask I shall reserve for one of your rare breathing olls.

Very sincerely yours,
W. S. Halsted

Baltimore, November 22, 1920

Dear Garrison:

You must have devoted the entire Sabbath to matters which I have smothered you with.

Just now I captured Welch on the phone and read your letters to him. He has seen the index in its various stages and feels as you do that an enormous amount of time has been wasted on it. But he declines to interfere, because, 1, Burket has set his heart on this, his opus magnum; 2, his position being a delicate one, he is unwilling to criticize or suggest; 3, the responsibility is entirely Burket's. Welch professes to be greatly pleased with the size of the index and to be indifferent to the faults of the scheme. He realizes the hopelessness of a controversy with Burket, and particularly desires to divert himself of any responsibility. In a word, he evidently does not wish to be bothered. This being the situation, may we not let the *ganze geschichteschüpfen?*

Truly, it hurts me to feel that I am unable to comply with your request for a sketch of Luigi Porta for the *Annals of Medical History*. The fact that I have no literary talents might not deter me, but physically I am unable to assume additional burdens at present. For the past month in great part I have been confined to the house slowly recuperating from what seems to have been a relatively mild attack of pancreatitis, and I am tottering along, far in the rear, trying to keep up with the procession and my duties at the School, Hospital and Hunterian Laboratory. Furthermore, I have a number of papers on the way which I should be sorry to sideshoot.

Thank you so much for telling me of *Youth and the Bright Medusa*. I shall order it from Scribner and heed your warning again. . . . Howell's collection of best stories I interpret charitably as a tribute to his friends.

Ever yours,
W. S. Halsted

* * *

Baltimore, November 27, 1920

Dear Garrison:

Miss Stokes and I most truly appreciate your infinite goodness in so carefully revising her translation of Bottini's *Eulogy*, and we trust you have not thought she made the slightest attempt at proper phrasing. Miss Stokes is a little discomfited that I should have submitted to you her hurried and intentionally rugged and ragged draft, which was intended solely for my delectation. I relished the Mediterranean flavor of her *buchstäbliche übersetzung*. Do not interpret this as an attempt to restore the equilibrium of our hitherto blissfully unruffled family. Seriously we heartily welcome your kindly touches and masterful caligraphic strokes. They recall the pleasure I found, a few years ago, in reading in manuscript a long letter of Swinburne's caressingly repolished. You may have noticed that in one of the volumes of Henry James's letters. There is reproduced, as a sample of his method, a slice of page proof devoutly slaughtered by his fastidious pencil. How interesting it would be to gather for publication some of the piously revised galley proofs of great writers of poetry and prose. Doubtless you know of such a collection. I have in mind its values to me and to medical men plunging feet first into print, blissfully ignorant of the existence of such a thing as the art of expression or helpless in their search for it.

I beg of you to reply to this. If you do I shall play clam until the next exuviating season for *clams*.

Faithfully yours,
W. S. Halsted

* * *

Baltimore
May 26, 1922

Dear Garrison:

Please pardon this letter in pencil. I am on my back, horizontalized with an attack of choledochitis. But I must thank you promptly for your much appreciated letter. I trust that everyone preserves your letters. What interesting volumes they would make! I envy Welch the opportunity to see you so often and trust that he has. I sent you messages by Ruhräh also, before the dinner.

I shall miss you greatly, but I have your *History of Medicine*—the second edition in town, and the third in the North Carolina Mountains.

Ever yours,
W. S. Halsted

Book Reviews

Psychiatric Nursing

Principles of Psychiatric Nursing. By MADELENE ELLIOTT INGRAM, R.N., formerly on the nursing staff of the Colorado Psychopathic Hospital, Denver. Foreword by Ross McC. CHAPMAN, M.D., medical superintendent, Sheppard and Enoch Pratt Hospital. Philadelphia: W. B. Saunders Company, 1944. Pp. 511.

This book is written for the undergraduate student, usually a young woman between the ages of eighteen and twenty-one who approaches her period of education for the profession of nursing with serious purpose. She has enthusiasm and intelligent curiosity. It is during these years of her hospital training that patterns are laid down which will not only make for success or failure in her chosen profession but will further contribute to the development of her personality those qualities of poise, courage, patience, and intellectual honesty which are of great importance no matter what life may bring.

The fine relationship between patient, nurse, and physician is of the utmost therapeutic value in medicine and surgery. In psychiatry it may reach its greatest height. In no branch of medicine are greater demands made on the nurse for keenness of observation and clearness of description, and nowhere may she play a more important part in treatment. Here her bearing and her capacity to reassure and to create confidence, as well as to render the physician more technical assistance, are invaluable. The growing significance of psychiatry is reflected most prominently in the advances being made in the education of physicians and nurses. Contributions to the field are even needed and are more than welcome. Heretofore there has been to my knowledge no textbook on psychiatric nursing which has brought to the student nurse such a wealth of pertinent factual detail as to the nurse herself, her patient, and the nurse-patient relationship.

Diseases of the Eye

Manual of the Diseases of the Eye. For Students and General Practitioners. By CHARLES H. MAY, M.D., Eighteenth edition, revised with the assistance of CHARLES A. PERERA, M.D., associate in ophthalmology, College of Physicians and Surgeons, Columbia University. With 387 illustrations, including 32 plates, with 93 colored figures. Baltimore: William Wood and Company, 1943. Pp. 520. Price $4.00.

Dr. May's recent death marked the passing of a great teacher. This gift of teaching is rare enough to require more extended comment than can be made here, but it must have been richly satisfying to this author to have his book translated into nearly a dozen foreign languages, even if that were the only reward for the time and effort expended. In this case, to be sure, there were other rewards also.

The preface to the first edition sets forth that "the author has endeavored to present a concise, practical and systematic manual of the diseases of the eye, intended for the student and the general practitioner of medicine." In all the editions which followed, this basic effort has been kept in mind, and anyone who acquires the substance of this text has a good working knowledge of ophthalmology. Comparatively common diseases of the eye have been dealt with in relative fullness, while the uncommon conditions have been relegated to those ponderous tomes found on the "specialist's" shelf. Teaching vision by the use of vision is the essence of this book. The illustrations in black on white are clean cut, and the colored plates showing changes in the retina are excellent. Many of them were made when "colored photography" as such was almost unknown; therefore the faithfulness to fact is all the more remarkable.

The use of the ophthalmoscope was always encouraged by Dr. May, and under his guidance, in the clinic, students soon began to recognize changes which occur in such general diseases as diabetes and nephritis. Just here lies the vast difference between an oculist and one who merely "fits glasses". The lay person who "runs a store" to sell lenses assumes a terrible responsibility if he allows a systemic cause of poor vision to go unrecognized. Unfortunately, "the law" in some states of our Union allows and abets just that. The legislators ought to own copies of May's book,—better yet, they ought to read and memorize certain chapters of it.

Postoperative Care

After-Care and Rehabilitation. By Various Authors. With an Introduction by F. R. FRASER, M.D., F.R.C.P. Edited by SIR HUMPHREY ROLLESTON, Bt., M.D., F.R.C.P., and ALAN MONCRIEFF, M.D., F.R.C.P. London: Published by *The Practitioner* in conjunction with Eyre and Spottiswoode, 1943. Pp. 128.

Books on after-care are not too plentiful, especially those devoted to definite surgical conditions. Here various British authors of note have set down many facts concerning postoperative care, in its medical, surgical and anesthetic aspects. But there are described also nervous and mental complications following surgery. Rehabilitation of patients confined to bed is set down in a special chapter, and there is also "the after-care of pulmonary tuberculosis" with special reference to tuberculosis colonies. Patients must be rehabilitated after head injuries, after fractures of all kinds and after amputations. Postoperative convalescence includes also occupational therapy. All of these matters are considered quite fully within the compass of a few pages. Incidentally, we are told that "this book is produced in complete conformity with the authorized economy standards." Nevertheless, paper and general get-up are entirely satisfactory, and the rather small print is easily readable, although the lines are closely set.

Personal and Community Health

Personal and Community Health. By C. E. TURNER, A.M., Sc.D., DR. P.H., professor of public health, Massachusetts Institute of Technology, etc. Seventh edition. St. Louis: The C. V. Mosby Company, 1943. Pp. 585. Price $3.50.

This book aims to teach personal and community hygiene to young men and women "at the university level". It is quite proper to say that no education is complete or even adequate if one does not know the fundamentals of health and its opposite. During the past quarter century such knowledge has increased enormously in the laboratory and field, and it has been rapidly sent out to the public through special articles in magazines and newspapers. This may have been overdone in certain instances, e.g., vitamins, concerning which there is still considerable confusion. For this the "commercial" manufacturers are not without blame

because of untrue and ill-advised claims. Nutrition, digestion and oral hygiene have been fully dealt with, but respiration is still an unknown quantity to many young persons. The same is true of "body mechanics" and foot hygiene. Ladies who spend hours making and keeping their hands pretty, often walk on shameful feet; yet foot health is so highly important to all. As for narcotics and stimulants, there is almost willful unknowledge. There is too much consumption of alcohol, and not enough emphasis is placed upon the dangers which lurk in "drugs".

Part II of this book is well written and sufficiently broad in its coverage. It considers communicable diseases and immunity therefrom. Community health is too often left to "the older generation". It seems not to interest the decade from twenty to thirty. However, after marriage and the beginning of "raising a family", this attitude changes to one of greater concern. Tuberculosis, syphilis and the common cold are set down as "Three Great Plagues" and the information concerning them is general and complete. Chapter 31 deals with industrial hygiene. The health of the worker is now a matter of great concern, and is in reality a "specialty of medicine." This is a sort of "public relations book" which ought to have a wide reading.

Audiometry

Clinical Audiometry. By C. C. Bunch, M.A., Ph.D., formerly associate professor of otology, Medical School, University of Iowa. With seventy-four text illustrations. St. Louis: The C. V. Mosby Company, 1943. Pp. 186. Price $4.00.

It seems to have been no disadvantage to "C.C.", as his intimates call him, to have made no effort to obtain the degree of M.D.; for L. W. Dean, in the preface to this volume, says that Bunch was an "excellent otologist". He was an exceedingly practical researcher in every detail, one who delved into the mysteries of physics and the phenomena of sound in order to understand more clearly the mystery of hearing and hearing defects. His contributions to otology have been many, varied and important.

The old carbon tube was used in the first hearing aid sets, but it produced distortion, extraneous sounds and often discouragement. With the arrival of the vacuum tube, it is now possible for the otologist to select a proper aid for his patient. This he ought to do, at least he ought to see to it that his patient has a serviceable aid; for, if he does not do so, "he may be sure that some one less competent and with different ethical standards will do so in a manner less satisfactory." This is a mild way of saying that in the past the otologist has not done his job, has not followed through. Consequently, many patients have purchased expensive aids, have found them unsatisfactory, and have thrown them into a bureau drawer, there to remain as a bitter reminder of an ignoble experiment.

Dr. Bunch sketches the history of the audiometer, the technic of its use in selecting an aid, and the false conclusions which may be drawn from an inadequate understanding of its capacity to help in fitting an aid. Emphasis is placed upon the variations between the conductive and perceptive types of deafness. There is no mechanical substitute for a physiologically accurate auditory nerve. There is also no accurate substitute for the human voice as a medium of communication of one human being with another. In the latter respect, all noise-producing gadgets fail, no matter how well made. The final test of any "aid" is how well does is bring the human voice to the interpreting brain of the listener. Great strides are in the making, but the science of acoustics still has a long way to go to satisfy the deafened fully and completely. Many are grateful for the aid given; others are resentful even bitter because of failure to hear well. When the boys come marching home from the wars, thousands will be deafened, but must earn a living in spite of aural defects. This book is an effort to help the aurist to help the deafened.

Dictionary of Biochemistry

Dictionary of Biochemistry and Related Subjects. Editor-in-chief, William Marias Malisoff, professor of biochemistry at the Polytechnic Institute of Brooklyn. New York: Philosophical Library, 1943. Pp. 579. Price $7.50.

Malisoff very humbly presents a dictionary limited to the field of biochemistry. He tells of the conflict he had in deciding how to organize and present this book, and we think it is well that he does this.

Some definitions are limited to three words, while others will extend to a small monograph. Autointoxication is defined as "poisoning by toxins absorbed from the alimentary canal". We feel that this is a rather brief, blunt explanation which might satisfy a layman but which is far from complete. It is the word explaining the condition as used by the layman but it would bear a little broader interpretation. On the other hand, "autolysis" goes on for some twelve pages. Of course, each author will consider some subjects far more important than others. No doubt this decision will come from his own subjective interest in the problem.

In all justice, however, we must state that the author realizes the different values he has put on different subjects and frankly states that the entire book is an experimental effort. The book as it is will be found useful by many persons and is a necessary addition in the library of anyone working in the field of biochemistry or interested in it.

An imposing array of scientists have collaborated with Dr. Malisoff in preparing this book and we are certain that it will be widely used, but we feel that future editions will help balance the possible shortcomings that may exist in the present editions.

The Nervous Patient

The Answer Is . . . Your Nerves. By Arnold S. Jackson, M.D., F.A.C.S. With a chapter by The Rev. Edwin O. Kennedy. Illustrations by Evelyn Lipman. Madison, Wisc., 1942. Published by the author. Pp. 192. Price $2.00.

Just to tell a patient that he is not suffering from organic disease or that he does not need an operation is not enough in the case of the nervous patient. The author, a former Fellow of the Mayo Clinic, and at present a member of the Jackson Clinic at Madison, Wisconsin, sets out to explain in a popular presentation the various reasons for nervousness. The successive chapter headings include City Fever; Miracles, Malingerers and Mollycoddles; Tight Necks, Choking Sensation, and Shortness of Breath; Supermen; Nerves in the Nursery; Nervousness Due to Goiter; She Wanted Attention; Change of Life for the Better; Balanced Living; Religion and Nerves. The language is generally popular and the text is explained by many case histories and by a number of clever illustrations. This is a volume which should be of definite aid in enlightening intelligent lay persons.

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AUGUST 1944

Medicolegal Notes

Disfigurement by Loss of Teeth as a Cause of Action

Disfigurement and its degree—whether trifling or serious, temporary or permanent—is purely a question of fact. Whether the loss of teeth constitutes or does not constitute disfigurement of a certain individual has frequently come before the courts.

In two recent cases in Pennsylvania workmen's compensation was claimed in each case for the loss of two front teeth. In the first, Muchneck vs. Susquehanna Waist Co., 124 Pa. Super. 194, 188 A. 413, the Pennsylvania Superior Court upheld an award therefor, but it said at the same time that situations may arise where the loss of a front tooth might not be so serious as to create an unsightly appearance. In the second, Kashoff vs. Coat Craft Co., Inc. 36 A. 2d 180, the same court last month (March 2, 1944) refused to declare as a matter of law that a woman with two false teeth has a serious and permanent disfigurement or to attempt to measure the extent of the disfigurement, because to do so would be to usurp the function of the workmen's compensation board. Findings that a disfigurement claimed is serious and permanent and produces an unsightly appearance must be made in the first place by the board.

In the latter case a floor girl tripped and fell, striking her front teeth on the floor, necessitating the extraction of two permanent upper incisors. The employer agreed to pay $90 for a permanent denture and had paid the dentist $100 for services rendered. The board found that the employer had done everything possible to secure the best available treatment for the claimant and there was every reason to assume that the permanent denture would, so far as outward appearances go, restore the claimant's facial appearance to that which existed prior to her accident. . . . . (and) when the permanent denture is in place this claimant will look substantially the same as she did before and that no unsightliness or disfigurement will remain." The Superior Court could not say that this finding was so arbitrary as to amount to an error of law, and affirmed the board's order disallowing compensation for disfigurement.

When Physician May Sue for Workmen's Compensation Services

The Appellate Division, Raisman vs. Ashford Roofing Co., Inc., 261 Appellate Division 782, 27 N. Y. S. 2d 166, affirming the Appellate Term, 22 N. Y. S. 2d 565, held that the new sections inserted in the New York Workmen's Compensation Law in 1935, which made the employer liable for payment for the physician's services, created liability under a contract implied in law which might be enforced by action. The statute, 11, expressly states that, as to claims by injured workmen, their common law right to damage is terminated by the statute, but there is no similar restriction as to claims of physicians for compensation for their services.

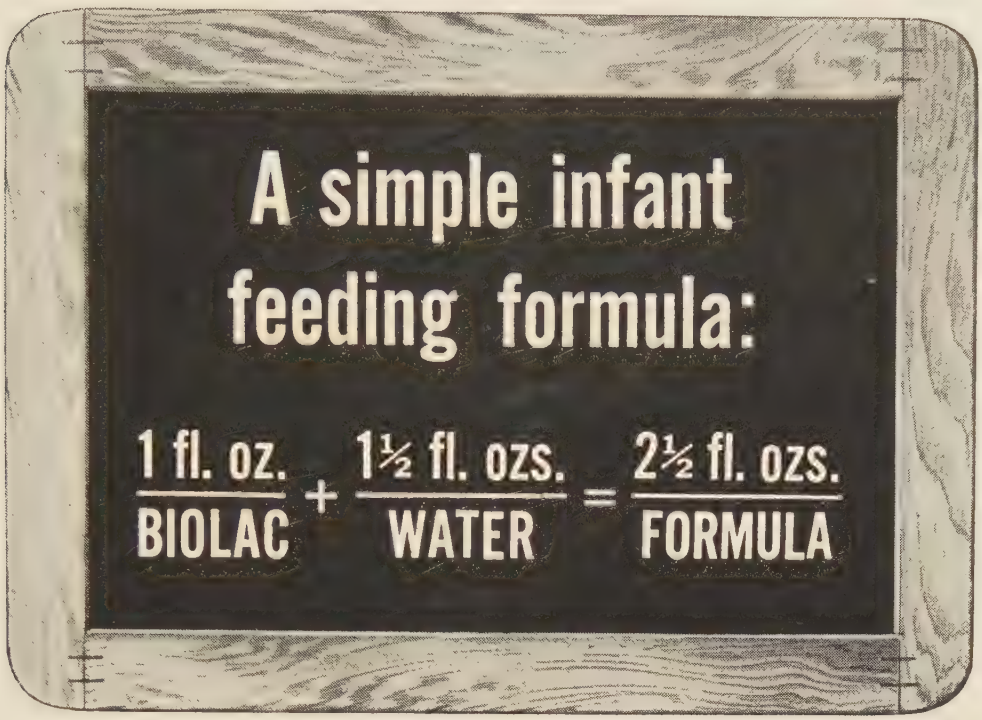
The court did not decide whether the Legislature intended, in the amendment of 1935 providing for arbitration of the physician's bill if it was demanded by the employer, to have any award by the arbitrators enforceable only under the arbitration statutes. All it held was that the physician had the remedy open to him of bringing this action at law when no demand for arbitration was made by the employer.

Necessary Personal Injury Medical Expenses Must be Shown

In a personal injury action the mere proof that expenses for hospital and medical services have been incurred is insufficient to admit of their inclusion in damages awarded to the injured person. In addition, it must be shown that the expenses were necessary and reasonable. When this necessity and reasonableness have not been shown the trial court may permit the plaintiff to file a remittitur of the entire amount of such expenses. The sum of these expenses being readily ascertainable as $929.20, the portion of the verdict including the amount of such expenses was held properly remitted. Bragg vs. C. I. Whitten Transfer Co., West Virginia Supreme Court of Appeals, 26 S. E. 2d 217.

Susceptibility from Prior Disease

The mere fact that a mining company's roadman who died from pneumonia caused by a slip and an eight inch fall, had pleural adhesions as the result of a prior illness, or that these adhesions rendered him more susceptible to the fatal injuries sustained, did not prevent his death being compensable under the Pennsylvania statute. Ricci vs. Vesta Coal Co., Pennsylvania Superior Court, 28 Atl. 2d 627.



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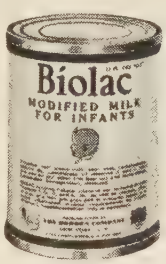

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TRUTH OF THE MATTER

Doctors and Kings

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Writing in the *British Medical Journal,* March 18, 1933, Sir Andrew MacPhail said:

"For a perfect sight of the old medicine, let me conduct you to the bedside of Charles II: With a cry he fell. Dr. King, who, unfortunately, happened to be present, bled him with a pocket knife. Fourteen physicians were quickly in attendance. They bled him more thoroughly; they scarified and cupped him; they shaved and blistered his head; they gave him an emetic, a clyster, and two pills. During the next eight days they threw in fifty-seven separate drugs; and, towards the end, a cordial containing forty more. This availing nothing, they tried Goa stone, which was a calculus obtained from a species of Indian goat; and as a final remedy, the distillate of human skull. In the case report it is recorded that the emetic and the purge worked so mightily well it was a wonder the patient died. One physician did protest that they would kill the king and out of this arose the suspicion that he had been irregularly poisoned. But he did die, 'as peaceable as a lamb'; his last words were, 'Do not let poor Nellie starve'."

The king was a gentleman, true to his mistress to the last. However, it is heartening to read this record of treatment for, be it as bad as it may be today, medicine has at least improved to the extent that doctors do not think they know half as much as their predecessors did. Hence they are the more ready to do nothing when they do not know what to do that is wise and right, whereas in former days they were pursued by the haunting urge always to do something, whether they knew what they were doing or not.

What actually happened in this case is even more revealing in detail. His Most Serene Majesty, Charles II of England, a hearty luster and a loose liver, arose at precisely 8 a.m. on Monday morning, February 2, 1685. On the previous Sunday evening he had been seen by the great diarist Evelyn as he sat toying with his concubines, with Portsmouth, Cleveland, and Mazarin all present. A French boy stood by singing love songs and the King had at least two thousand pounds in gold before him. This was apparently a typical Sunday evening session.

In spite of it he arose early on Monday, but while being shaved, pitched into the arms of Lord Ailsbury, uttering a faint cry. A more accurate record says that two physicians had the misfortune to be present and they immediately opened a vein and took sixteen ounces of blood which never seems to have gotten to any blood bank. As that was all they could think of at the moment urgent messengers were sent for reinforcements who ordered the cupping glasses applied to his Majesty's shoulders and, by really working at it, managed to extract another eight ounces of blood.

Then came the strong emetic but, as the King could swallow little of it, assurance was made doubly sure by giving some zinc sulphate. Then came the strong purgatives and the clyster; then the shearing and blistering of the head; followed by red-hot cautery.

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relieves the various vasomotor and nervous disturbances so frequent at the menopausal period, with uniformly good results.

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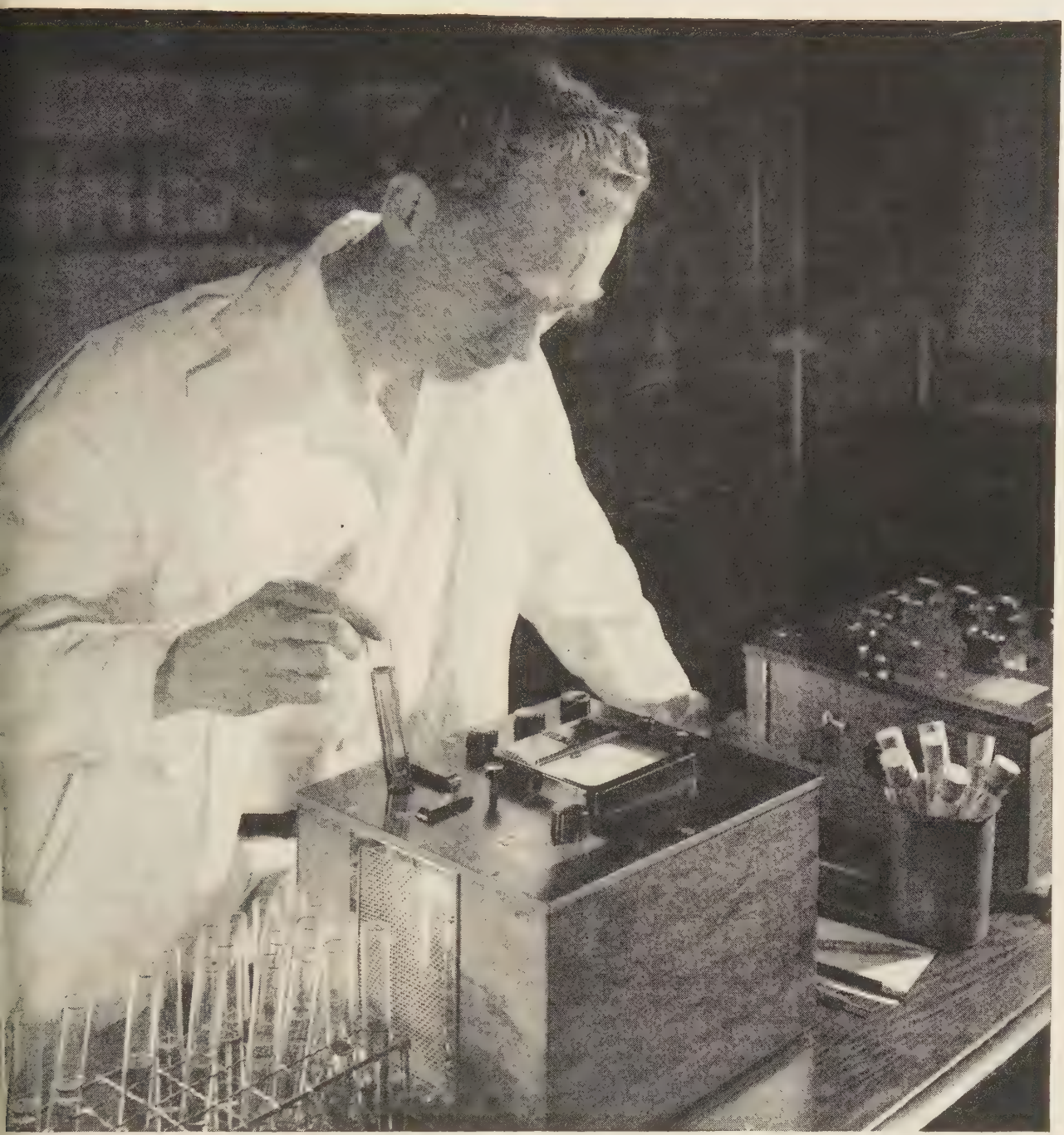

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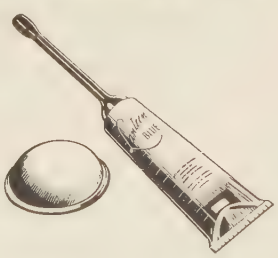

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If the patient's trouble was in the leg, the appropri ate distillate from leg bone was used. It is presume that the King took the distillate of human skull as h probably had a hangover headache when he arose. I he had happened to take the distillate of human t bone, what happened afterward is easily explained.

Anyway the King did pretty well until Monday eve ning, which no doubt rather discouraged his physician So they held a parley to concoct more deviltry to pla on him. They agreed he was in pretty good state bu they desired to relieve the pressure of the humours o his brain. If they had all gone the hell home it woul have been a great deal better for everyone, but the didn't think of that.

So they administered remedies to promote sneezing along with varied aperients, and then applied noxi ous plasters to the soles of the royal feet. A prepara tion of cowslip flowers and spirit of sal ammoniac wer given as stimulants. The King bore this additional tor ture with remarkable fortitude, there being no recor that he even so much as bit a single one of his torment ers. Soothing drafts were given to allay his thirst. H was also given a light broth, and ale without hop and thus therapeutic creativeness ended the labors the first day.

As the King was alive and conscious Tuesday morn ing another consultation was held. The modest succes of their efforts encouraged the round dozen docto now present to continue their line of treatment unt the King complained bitterly of sore throat. On exam ination his throat was found badly scarified from co stant drugging. So the doctors took pity, gave him mild astringent and a gargle, and an antispasmod julep of black cherry water and other ingredients sai to be hot stuff for convulsive disorders. On secon thought a further ten ounces of blood was remove from the King's veins for the blood bank.

On Wednesday afternoon the King suffered a relaps Further convulsions intervened, so spirit of huma skull was administered. An announcement was the issued that the King would soon be free from his di temper, whether by death or otherwise it was not sai

On Thursday he had another attack of convulsion though his mind remained clear and there were still casualties among the physicians. The King knew th jig was up and said he faced death with serenity. B tween seven and eight in the evening a priest w called in. He ushered Charles into Heaven by way Catholicism, whereupon the King apologized to present for the unconscionable time he took dying.

On Friday the King was seized with breathlessne He was again bled and heart tonics were administere At eight his speech began to fail and at ten he was u conscious. He passed away just before noon. His dea was attributed to apoplexy, though no ruptured vei were noted; but the arteries of the brain and its vei were much congested, and there was also some lu and liver congestion. The physicians had won.

Charles' constitution must have been remarkab

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that, after fifty-four years devoted to every kind popular iniquity, he could withstand the atrocities d vised by a dozen doctors for four days. Burnett, ho ever, gives a slightly deviant account of the death Charles which might be relished by some of the gentr

For Burnett tells us that Charles had looked bett than for some time, just before his death. However, had trouble in his leg, a "humour" of course, whi impeded his walking. On Sunday, February 1st, he a little all day and at night came to Lady Portsmouth where he called for a porringer of spoon meat. It w made too strong for his stomach, he ate little of it, a he had what was called, with remarkable restraint, "unquiet night".

In the morning a physician, Dr. King (at least the is agreement here), and a chemist came to wait him, as he had ordered. His discourse was broken a it was difficult to understand him. Immediately ther after the King fell into a fit that resembled apoplex he became black and his eyes turned in his head. T physician immediately said it was impossible to sa the King's life and probably began to look around f his golf clubs. But he thought it might be just well to let a little blood and so they did.

The King surprised them and came out of his f Other physicians arrived and approved of the blo letting *ex post facto*. Thereupon the Privy Coun met and ordered a thousand pounds paid the bl letter, but Dr. King never got the money. Howev the King remained much "oppressed". On Thursd the fit returned. A priest was summoned.

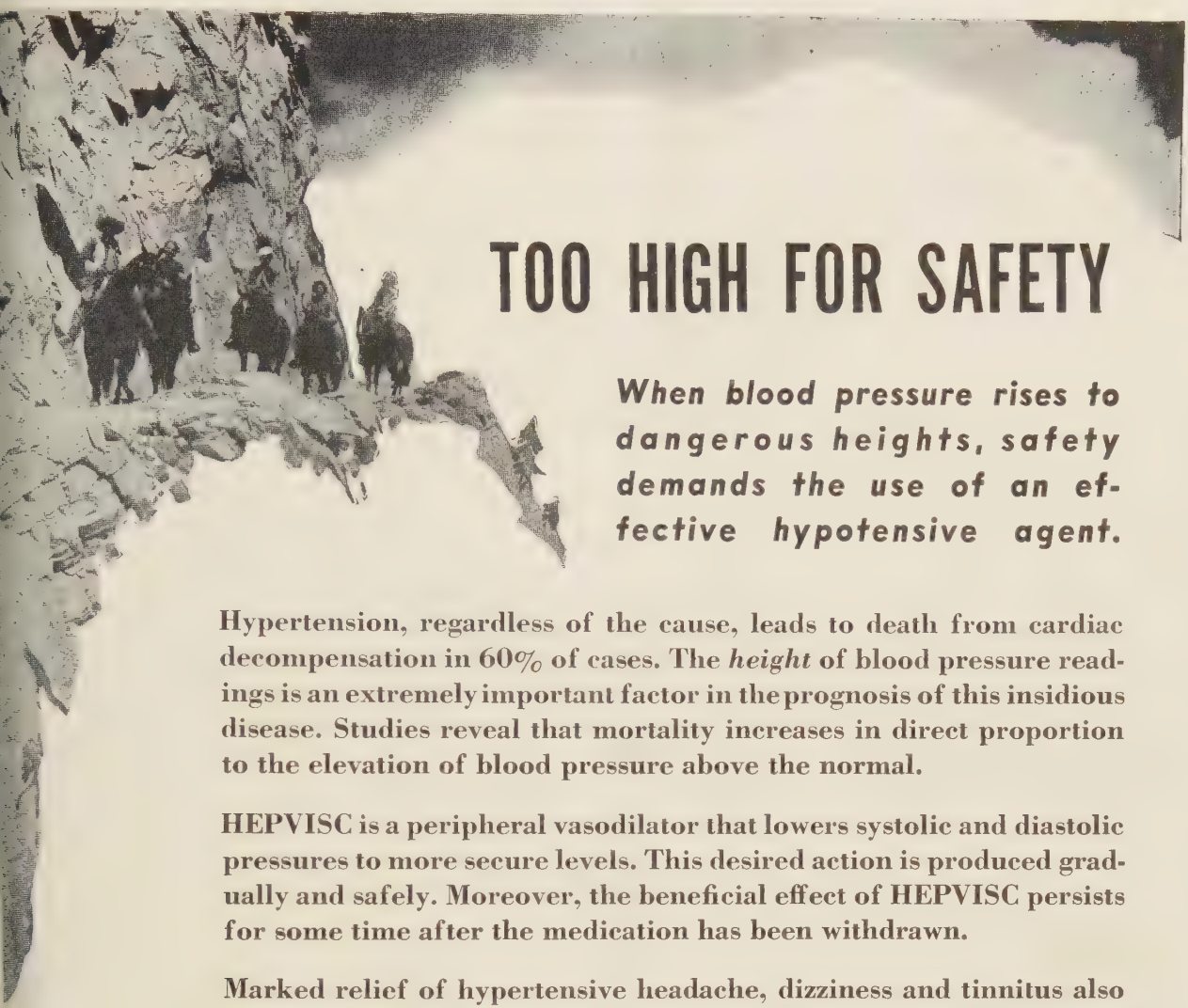
"The Hostic stuck in the King's throat; and th was the occasion of calling for a glass of water. The King suffered much inwardly, and said he w burnt up within; of which he complained often, b with great decency." In any case he died, relative untroubled by his doctors. Unfortunately a number parts of his anatomy were carelessly looked after po mortem, some being poured down a scullery hole th went into a drain and others of which were seen lyi on the mouth of a grate for days.

So passed Charles II, according to historian Burne By this time neither one of us should have much id how this King died and it might pay us to consider a other one.

Turning to King James I, we find a heavy trench man and an indiscriminate drinker. An account of death was recorded in Latin which someone though fully translated for the *University College Hospi Magazine* of January-April 1934. It declared that the 27th day of March, 1625, by compassion of G our very gracious Lord, Jean, King of Great Brit of pious memory, left this mortal and troublesome li

We also read: "It is true that the most serene K was gifted by Nature with an excellent constituti but as age came on, it was obvious that this was i poverished chiefly by errors in diet and by exter causes. . . . His stomach, by its want of tone, was ma times distended by wind and its movements hinde by symptoms of imperfect digestion, so manifest th he was continually drinking strong wine to give hi self ease. To this weakness of the body must be add many errors of diet, for, although moderate enough ordinary food, because he was edentulous, he nev masticated it, but bolted it whole.

"Moreover in the matter of garden fruit, he gros exceeded, greedily eating it at any time, day or nig



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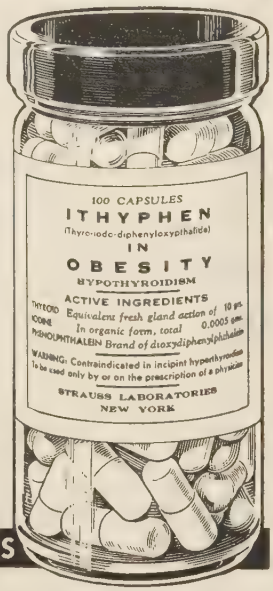

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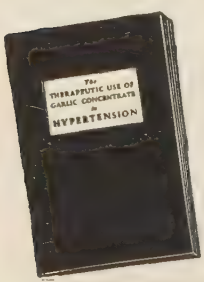

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Again, in drinking he was shockingly intemperate, m ing his liquor so that at any one time he took ale, b sherry, and sweet white French or Greek wine, wh were his favorite and customary beverages, even wh they were ropey and full of lees. From these habits followed that an evil humour was bred in him."

That gives you a rough idea of what it means to l like a King, at least like some kings. In brief that k was a perfect mess by this time. *(To be continued)*

Brucellosis, a Major Health Problem

Dr. O. W. Schreiner, medical director of Wilson a Co., Chicago, says (*Industrial Medicine*, Decemb 1943) that while brucellosis is a comparatively n disease in the United States, it is believed to have b prevalent in the Mediterranean area for centuries. was known under several names, such as undulant fev Malta fever, and Mediterranean fever.

The first case occurred in the United States in 19 and since that time has increased in prevalence unti has become a serious health problem. Investigati during the past forty years have shown a definite re tionship between contagious abortions in animals a undulant fever in man, and in man it is endemic areas where the disease is prevalent in domestic anim Unpasteurized milk seems to be a common source infection and in spite of campaigns to eradicate the fection in animals and to control it in people, brucell shows no evidence of decline.

The protean nature of the infection and the mu plicity of symptoms make diagnosis difficult, parti larly in the chronic stages of the disease. Valuable di nostic procedures are the agglutination test, the int dermal test, cultural studies, white blood cell and ferential counts, and opsonocytophagic tests. The pr alence of brucellosis in man depends on four facto pasteurization of milk and cream; eradication of disease in domestic animals; prophylactic vaccinat of all persons coming in contact with either the tures or with the disease in animals, and public hea education in regard to the danger from contact with fected animals. Prognosis is usually favorable in m cases.

The treatment of brucellosis has been a perplex problem since the causative agent was identified by David Bruce in 1887. Many forms of treatment h been given careful study including immunizing seru vaccines, toxic filtrates, chemicals, and artificially duced fevers, and more recently, the sulfonamide c pounds have been tried but the results have so far b inconclusive.

The author presents a preliminary report of five ca treated with a radioactive colloidal manganese prod marketed by the Farnsworth Laboratories, Chic under the trade name of Colmetanese. In most of patients there was a prompt response to treatment a markedly improved clinical picture with increase appetite, reduction of fever, and the cessation of m bidity, the patients being able to resume their work a much shorter time than with the use of other me ods of treatment used. The author believes that t therapy has had a decidedly beneficial effect in all ca in which it was used, and there were no apparent to reactions or intolerances shown.

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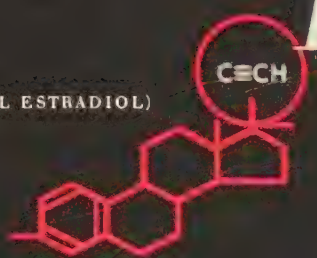

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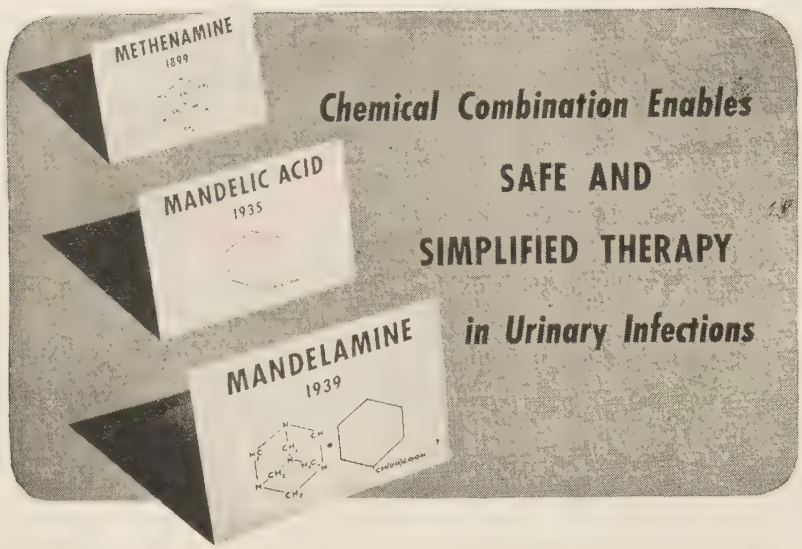

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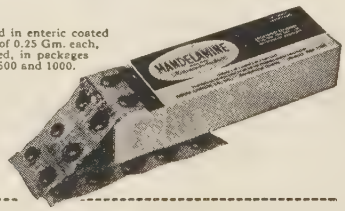

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Tuberculosis Lesions in Draftees

Dr. Herbert R. Edwards, direct of the Bureau of Tuberculosis of t Department of Health of New Yo City, says that practically all of t men rejected by Selective Service f tuberculosis and other chest disea are seen by the Department within short period after their rejection. A proximately one percent of all t men examined for Selective Servi in the New York area have be found to have lesions characteris of pulmonary tuberculosis and in ne of some form of supervision.

"Perhaps one of the most impo ant findings as a result of this pr cedure was the number of men w healed tuberculosis", said Dr. E wards. "These men are perfectly al to continue their daily activities wit out danger to themselves or to othe In the past it has been generally b lieved that all persons with a dia nosis of tuberculosis were infecti and therefore a danger to others."

Problems in Postwar Relief

In the three years following the la war more people died from fami and preventable disease than we killed in the war itself, says an e torial writer in the *Journal of t Royal Institute of Public Health a Hygiene,* March 1943; hence the i portance attached to the present ganization of postwar relief. The pri cipal regional medical officer, Brit Ministry of Health, holds that t lives and health of millions in Euro as well as the physique and welfare a generation to come depend on h well this preparatory work is done. visualizes four principal problem the provision of food, the supply medical necessities, the control of su diseases as typhus, malaria, tuberc losis, and dysentery, and the reesta lishment of the medical, hospital, a public health services in each count

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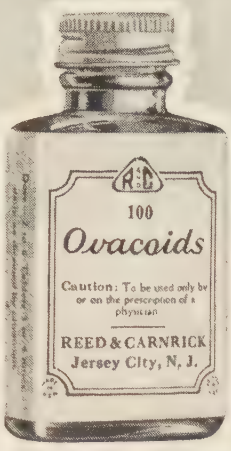
Penicillin for Foreign Countries

The War Production Board has announced that arrangements have been mpleted for the export of one bilon Oxford units of penicillin to other nerican Republics on an allocaon for the month of June and plans e now being made through Foreign conomic Administration offices lted in the field for a restricted orldwide distribution of this drug r civilian use. This is the first time e domestic supply of penicillin has een shared with foreign nations expt for occasional individual emerncy cases. Less than one percent of ir total production has been alloted for use abroad under the proam now announced, WPB said.

A control system for civilian disibution equivalent to that in the nited States would be required of very foreign country to which shipents of penicillin were made. Eighen of the other American Republics us far have accepted this condition nd have thus become eligible for enicillin allocations. Federal Econoic Administration missions in this eld have been instructed to deterine that a penicillin committee is reated in each country which has requested shipments. This committee ould have the responsibility of aproving all releases of penicillin with the country, and would be expected adhere to the list of recommended edical uses of penicillin developed y Dr. Chester S. Keefer, of the Naonal Research Council.

Arrangements are now being made r the export of penicillin for rericted civilian use to European neuals, the Middle East, the French eas and other countries. It was excted quotas would be established r civilian allocation of penicillin to ndia, New Zealand, Australia, South frica and the British West Indies.



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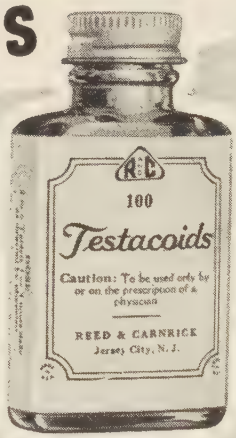

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Psoriasis

A sixty-four page booklet, entitled "Psoriasis—The Disease and Its Treatment", has been issued by Shield Laboratories, Detroit. It presents a comprehensive review of this obscure skin disease, its etiology, characteristics, diagnosis, differential diagnosis, and methods of treatment. As most practising physicians have at some time encountered cases of psoriasis, they will undoubtedly find of interest and value this concise summary of the various aspects of one of the most baffling diseases of the skin. It is pointed out that while psoriasis is of frequent occurrence, its etiology is still unexplained. The initial attack may occur at any age and sex, social status, and occupation appear to play little, if any, part in its occurrence. There are apparently no racial factors involved, and no specific climatological conditions have been shown to favor recovery. The disease, however, is rare in the Orient and tropics and much less frequent in the warmer than in the colder parts of the temperate zones.

The characteristics of the psoriatic lesions are described. In the typical lesion the eruption consists of papules and plaques, and the descriptive terms applied to variations in shape which these plaques assume denote the size and arrangement of the psoriatic lesions. Photographs of the various types of psoriasis are presented, showing the character and distribution of the lesions. The eruptions show a definite tendency to involve the elbows, knees, anterior aspect of the legs, scalp, and the sacral regions. The small of the back and the chest are also common locations for large patches. The hands and feet are involved more rarely. Itching and burning are the principal associated symptoms.

While long lists of types of psoriasis have been give by some dermatologists, Wise and Sulzberger ha given a simple classification of four varieties: psorias vulgaris, psoriasis pustulosa, psoriasis arthropathic and psoriasis mixta. Tobias has listed unusual types psoriasis which include seborrheic, pustular, arthr pathic, aberrant (atypical), inveterate, and acute type

While the cause of psoriasis is still unknown, researc has proved that it is neither infectious nor contagiou and that while heredity is a factor in some cases, dire transmission of the disease by inheritance has not bee demonstrated. The diagnosis is not difficult, provide a picture of the typical lesions and their distributio are kept in mind. A chart of important diagnostic sig is presented which may be helpful in differentiatin psoriasis from other skin diseases.

In the treatment of psoriasis emphasis is placed up the importance of maintaining the general health of th patient, removing all foci of infection, correcting dy functions, and above all, persistence in treatment. I ternal treatment, which includes the use of drugs an chemotherapeutic agents, biotherapy and endocrin products, has proved useless in most cases, and the va ue of vitamins and dietary restrictions is a controversi question. In the opinion of most authorities local trea ment alone produces satisfactory results. Chrysarob has long been recognized as an effective agent, but ha certain limitations; pyrogallol is unsatisfactory, an tars are irritating. Mercury compounds have been use where these preparations are contraindicated. T Shield Laboratories undertook a study to obtain product that would obviate these undesirable chara teristics. Riasol was the result. The active ingredien

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Clinically controlled studies were made in twenty-ne patients, and the findings are presented in tabular rm: There was improvement in seventy-six percent of ne cases. The lesions cleared in eight cases, were greatly nproved in six cases, slightly improved in two and not nproved in five. Photographs of patients are presented, owing the condition of the skin before and after treat-ent. Three cases from the series are reported in full s typical examples of the successful results obtained ith Riasol.

A carefully compiled bibliography, consisting of rty-three scientific references, adds to the value of is booklet, which physicians are sure to find inter-sting.

Campaign for Physical Fitness

The first meeting of the Joint Committee on Physical itness, composed of representatives of the American Medical Association and the National Council on Phys-al Fitness, was held in Washington, D. C., on July 4th, under the chairmanship of Colonel Leonard G. Rowntree, chief of the medical division of National elective Service. At this meeting the objectives of the pecial Emphasis Year on Physical Fitness, which is o begin on September 1st, were described by Dr. Her-an Kretschmer, Chicago, president of the American Medical Association, as being the development and aintenance of a high degree of physical fitness and igor throughout the nation and the prevention and orrection of defects. In carrying out the program, Dr. Kretschmer said, the committee will not only educate he American people to the need for such a program, ut will also stimulate every leader in the fields of med-cine, industry, labor, education, physical fitness and ports, and groups and agencies, both private and gov-rnmental, primarily concerned with physical condi-ioning and health, to combine forces in the operation f this physical fitness program to attain the goal—a ealthier, stronger America.

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Tuberculosis Control Division in USPHS

Surgeon General Thomas Parran has announced th establishment of a Tuberculosis Control Division in t U. S. Public Health Service, to wage the nation's te million dollar war against tuberculosis. Dr. Herman I Hilleboe, who has been in charge of Public Health Ser ice tuberculosis control activities since 1942, has bee named its chief. The functions of the new divisio include: Developing more effective measures for th prevention, treatment and control of tuberculosis; a sisting States, counties, health districts, and other p litical subdivisions of the States in establishing an maintaining adequate measures for the preventio treatment and control of tuberculosis; preventing an controlling the spread of tuberculosis in interstate traffi and any other activities that may be authorized to b performed by the Public Health Service.

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Scurvy Prevention in Australia

The requiremnt of twenty-five percent of the current orange crop in Australia for the Australian and Allied Services has led to an intensive study of substitutes to guard infants and young children from scurvy. Orange juice had been the chief anti-scorbutic. Other available sources of vitamin C are tomato juice, pawpaw, pineapple juice (Queensland) and black currant juice (Tasmania). Rose hip syrup and turnip juice are also used (*Med. Jour. Australia,* Oct. 16, 1943).

Babies who are artificially fed seem most susceptible to scurvy. Latent scurvy is often activated by infection. The Nutrition Committee of the National Health and Medical Research Council is foresightedly urging the use of the natural substitutes to cover seasonal shortages, possible intolerance in individual cases, or financial inability to purchase oranges. For emergency use a supply of synthetic ascorbic acid has been made available for free distribution by the State Health Departments, but education in the preferred use of substitutes and in arousing the public to the vital need of vitamin C in infants' and young children's diet is being pressed.

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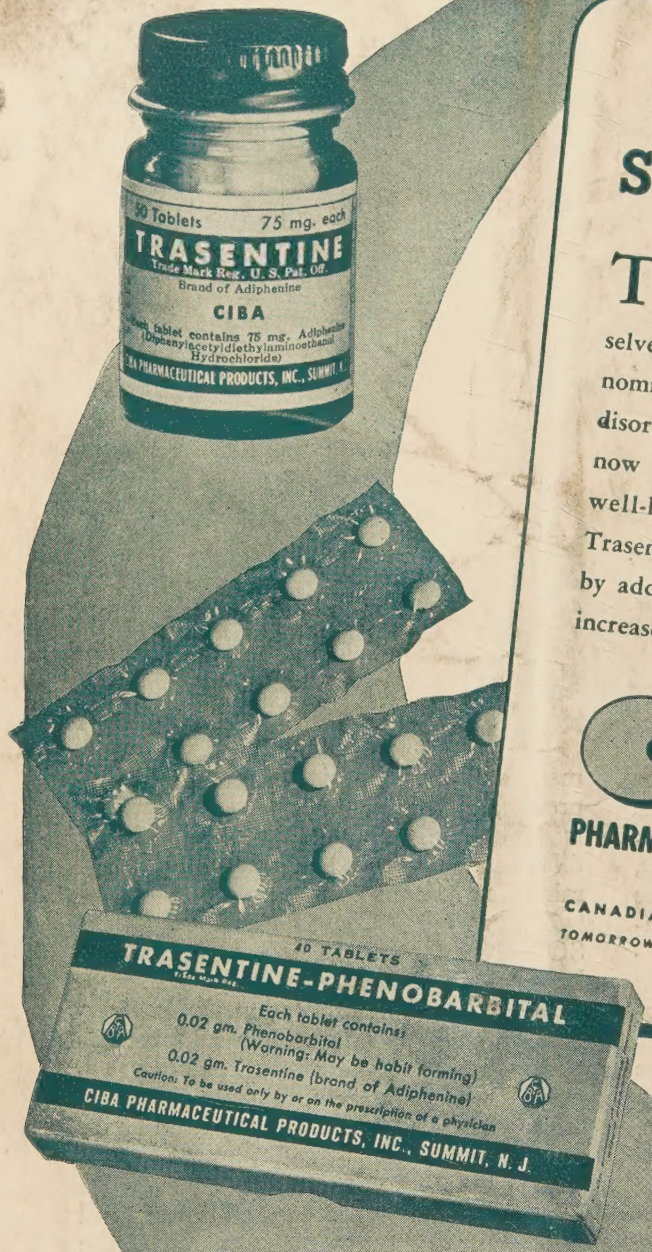
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